NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

(NASA-CR-144594) TRANSITION HEATING RATES OBTAINED ON A MATTED AND ISOLATED 0.006 SCALE MODEL (41-OT) SPACE SHUTTLE ORBITER AND EXTERNAL TANK IN THE NASA/LARC VARIABLE DENSITY HYPERSONIC TUNNEL (IH17) (Chrysler		N76-31270 HC $16.25
	G3/18	Unclas 02478

SPACE SHUTTLE

AERODYNAMIC DATA REPORT

JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANagement services

SPACE DIVISION CHRYSLER CORPORATION

July 1976

DMS-DR-2105

NASA CR-144,594

TRANSITION HEATING RATES OBTAINED ON A MATED AND ISOLATED 0.006 SCALE MODEL (41-OT) SPACE SHUTTLE ORBITER AND EXTERNAL TANK IN THE NASA/ LaRC VARIABLE DENSITY HYPERSONIC TUNNEL (IH17)

by

J. Cummings
Shuttle Aero Sciences
Rockwell International Space Division

Prepared under NASA Contract Number NAS9-13247

by

Data Management Services
Chrysler Corporation Space Division
New Orleans, La. 70189

for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number:	LaRC VDHT-646, 647
NASA Series Number:	IH17
Model Number:	41-OT
Test Dates:	11 thru 16 October 1973
Occupancy Hours:	32

FACILITY COORDINATOR:

Bernard Spencer, Jr.
M/S 411
Langley Research Center
Hampton, Va. 23665

Phone: (804) 827-3911

PROJECT ENGINEER:

J. Cummings
Mail Code AC07
Rockwell International
Space Division
12214 Lakewood Blvd.
Downey, CA. 90241

Phone: (213) 922-2030

AEROHEATING ANALYSIS ENGINEER:

R. Pederson
Mail Code AC78
Rockwell International
Space Division
12214 Lakewood Blvd.
Downey, CA. 90241

Phone: (213) 922-4900

DATA MANAGEMENT SERVICES:

Prepared by: Liaison--D. A. Sarver
Operations--J. E. Vaughn

Reviewed by: G. G. McDonald

Approved: J. L. Glynn
J. L. Glynn, Manager
Data Operations

Concurrence: N. D. Kemp
N. D. Kemp, Manager
Data Management Services

TRANSITION HEATING RATES OBTAINED ON A MATED AND ISOLATED 0.006 SCALE MODEL (41-OT) SPACE SHUTTLE ORBITER AND EXTERNAL TANK IN THE NASA/LaRC VARIABLE DENSITY HYPERSONIC TUNNEL (IH17)

ABSTRACT

This report presents model information and data obtained from wind tunnel tests performed on a 0.006 scale model of the Rockwell International Space Shuttle Orbiter and External Tank in the 18 inch Variable Density Hypersonic Wind Tunnel (VDHT) at NASA Langley Research Center. The Orbiter and Tank were built to Rockwell lines VL70-00089B and VL78-000061C, respectively. Tests were performed at a Mach number of 8.0 over a Reynolds Number range from 0.1 to 10.0 million per foot at 0° and -5° angle of attack and 0° sideslip angle. Transition heating rates were determined using thin skin thermocouples located at various locations on the Orbiter and ET.

The test was conducted in three stages: Orbiter plus External Tank (mated configuration); Orbiter alone, and External Tank alone. A study on the effects of boundary layer trips was also included in the test sequence.

The plotted results presented herein show the effect of configuration interference on the Orbiter lower surface and on the ET. Tabulated data are given in the appendix.

TABLE OF CONTENTS

INDEX OF MODEL FIGURES

INDEX OF DATA FIGURES

INDEX OF DATA FIGURES (Continued)

INDEX OF DATA FIGURES (Continued)

INDEX OF DATA FIGURES (Concluded)

PLOT SCHEDULE:

(A) HI/HU and H/HREF vs. X/L

(B) HI/HU and H/HREF vs. X/C

(C) HREF vs. X/L

NOMENCLATURE

SYMBOL	PLOT SYMBOL	DEFINITION
b	-	Model skin thickness, inches
$b/2$	-	Semi span - wing, inches
c	-	Specific heat of model material, BTU/lbm-^{o}R
c_p	-	Specific heat of air stream, at constant pressure, BTU/lbm-^{o}R
dT_w/dt	-	Rate of change of temperature with time, ^{o}R/sec
g	-	Gravitational constant, ft/sec^2
h	H	Heat Transfer coefficient, lbm/ft^2-sec
h_i	HI	Heat transfer coefficient in interference flow fields, lbm/ft^2-sec
h_{ref}	HREF	Reference heat transfer coefficient (stagnation on 1-foot full scale sphere), lbm/ft^2-sec
$h(T_o)$	-	Local T/C heat-transfer coefficient
h_u	HU	Heat transfer coefficient in undisturbed flow field, lbm/ft^2-sec
H	-	Enthalpy, BTU/lb
H_{AW}	HAW	Adiabatic wall enthalphy, BTU/lb
H_o	HO	Stagnation enthalpy
k	-	Thermal conductivity coefficient , BTU/ft-sec
M	MACH	Mach number
P_o	PO	Stagnation pressure, PSIA
P		Static Pressure, PSIA

NOMENCLATURE (Continued)

SYMBOL	PLOT SYMBOL	DEFINITION
P_r		Prandtl number
$\dot{q}$	QDOT	Heat flux, BTU/ft^2-sec
$\dot{q}_{ot}$		Stagnation-point heat flux calculated by Fay and Riddell's equation, BTU/ft^2-sec
$\dot{q}_w/\dot{q}_{ot}$		Ratio of wall heat-transfer rate to theoretical stagnation point heat-transfer rate
r_s	-	Radius of scaled one-ft sphere, inches
r	HAW/HT	Adiabatic wall temperature ratio (T_{aw}/T_o) = recovery factor
R	-	Gas constant, ft-lb/slug ^{o}R
R_e	-	Reynolds Number
$R_{e/\ell}$	RN/L	Unit Reynolds number, million per foot
t		Time, sec
T_o	TO	Stagnation temperature, ^{o}R
T/C		Thermocouple
T_w		Wall temperature, ^{o}R
u		Velocity, ft/sec
W		Density of model material, lbm/ft^3
X/c	X/C	Fraction of local chord
X_o		Orbiter longitudinal coordinate, in.
X_T		Tank longitudinal coordinate, in.
X/L		Fraction of fuselage length
Y_{BP}	Y(BP)	Orbiter butt plane dimension, in.
Y_o		Orbiter lateral coordinate, in.

NOMENCLATURE (Concluded)

SYMBOL	PLOT SYMBOL	DEFINITION
Y_T		Tank lateral coordinate, in.
Z_o		Orbiter vertical coordinate, in.
Z_T		Tank vertical coordinate, in.
α	ALPHA	Angle between model centerline and wind vector, deg.
μ		Viscosity of air, lb-sec/ft
ρ		Density of air, slug/ft^3
β	BETA	Angle of sideslip, deg.
ϕ	PHI	T/C radial location angle, deg.
ϕ_m		Model roll angle, deg.

SUBSCRIPTS

aw		Adiabatic wall
∞		Tunnel free-stream conditions
m		Measured
o		Tunnel stagnation conditions
t		Theoretical
w		Model wall conditions
′		Primed quantities indicating conditions behind normal shock

GENERAL

	RUN NO.	Beckman Number--comes from instrument used to record run number

REMARKS

This series of tests was conducted using a 0.006-scale model of the Rockwell International Space Shuttle Orbiter and External Tank. The tests were performed in the NASA Langley Research Center 18-inch Variable Density Hypersonic Wind Tunnel at a Mach number of 8.0.

Test variables included Reynolds numbers of 0.1, 0.5, 2.0, 5.0 and 10.0 million per foot and angles of attack of 0.0 and -5.0 degrees at zero degree sideslip. Both the mated Orbiter/External Tank configuration and the isolated Orbiter and External Tank were tested. Tests were made with and without boundary layer trips. Figure 3 shows the model tunnel installation and the various boundary layer trips used. The initial configuration utilizing boundary layer trips incorporated a 3/8-inch wide band of #25 (.030 Dia) sand grit applied circumferentially 0.5 and 1.2 inches aft of the nose on the Orbiter and External Tank, respectively, using lacquer as an adhesive. After three runs, most of the grit had blown off. Those data are not included in this report due to their questionable validity. However, Figures 3b and 3c show the flow structure of these tests.

A second method was then devised to trip the flow. Steel balls 0.0625" in diameter were spot welded 2 diameters apart to bands of stainless steel shim stock (0.001 in. thick and 0.125 in. wide), which was then spot welded to the nose of the Orbiter and ET at locations described earlier. Analysis of the Schlieren photographs from tests with this mechanism, Figure 3d, indicated that the trip (.0625" ball) was too

REMARKS (Continued)

large. The balls were subsequently reduced to .0468" diameter and spaced 3 diameters apart, which was the configuration used for the data in this report. Figure 3e depicts the flow pattern with this latter trip mechanism.

CONFIGURATIONS INVESTIGATED

The models were .006-scale representations of the Rockwell International Space Shuttle Orbiter and External Tank. The configurations are defined by Rockwell drawings VL70-000089B and VL78-000061C, respectively. The model was designated 41-OT.

The Orbiter and External Tank instrumentation consisted of 168 iron-constantan thermocouple with Kapton insulation, spot welded to thin skin 15-5 ph stainless steel inserts. Figure 2 presents specific heat vs. temperature for 15-5 stainless steel.

The Orbiter was cast in one piece utilizing Grumman Aerospace material "G" and was instrumented with 57 thin skin thermocouple inserts. The underside centerline region and B.P. 70 were instrumented with 25 thermocouples in two parallel rows. The underside of the left wing was instrumented with 26 thermocouples in three chordwise rows. Six thermocouples instrumented the left windshield. The Orbiter thermocouple locations and skin thicknesses are presented in Figure 1b and Table V.

The External Tank was fabricated from stainless steel plate and instrumented with 111 thin skin thermocouples. The thermocouple locations and skin thicknesses are presented in Figure 1c and Table VI.

The following list defines configuration components tested. Since there were no interchangeable or movable parts on the Orbiter, the Orbiter configuration was defined as O_1.

CONFIGURATIONS INVESTIGATED (Continued)

where:

$$O_1 = B_{10} \ C_5 \ D_7 \ F_4 \ M_3 \ W_{87} \ V_5$$

and

B_{10} - Fuselage

C_5 - Canopy

D_7 - Manipulator Housing

F_4 - Body Flap

M_3 - OMS Pods

W_{87} - Wing

V_5 - Vertical Tail

T_8 - External Tank

Bounday layer trips were denoted as:

X_{21} - #25 Sand Grit (.030 dia.)

X_{22} - .0625 in. dia. steel balls 2 dia. apart

X_{23} - .0468 in. dia. steel balls 3 dia. apart

Table III provides a complete description of model dimensional data.

TEST FACILITY DESCRIPTION

The Langley Mach 8.0 Variable Density Hypersonic Tunnel is located in Building 1247D and is under the direction of the Aero-Physics Division. This tunnel is used for fundamental aerodynamic and fluid dynamic investigation over large Reynolds number ranges obtaining pressure and heat transfer measurements. The test medium is air and is heated by a combination of Dowtherm and electrical resistance heaters. The models are sting mounted and injected into the established flow from the bottom of the test station. The tunnel has an axially symmetric contoured nozzle with a cross section of 18 inches in diameter and a core of 4 to 14 inches (depending on pressure).

Examples of operating conditions are as follows:

Stagnation Pressure (PSIA)......... 15 to 2930

Stagnation Temperature (R)$^{\circ}$........ 1160 to 1510

Mach Number .... 7.5 to 8.0

Reynolds Number (1/ft) .... 0.1×10^6 to 12.0×10^6

Running Time (sec), for

Exhaust into Vacuum Tank 90

Exhaust into Atmosphere 600

TEST PROCEDURE

Prior to tunnel installation, all thermocouples were checked for proper operation by applying a heat input (a soldering iron) to the T/C and observing the instrumentation read out. The models were then installed in the tunnel, in the inverted position, and spot checks made on the instrumentation.

Normal tunnel run procedure was for the model to be out of the flow during tunnel start-up and then injected into the established flow for a period of 4 to 5 seconds for data recording. The model was then removed from the flow and the tunnel stopped. After a pause for model and tunnel cooling, the tunnel was opened and model changes made in preparation for the next run.

A maximum of 168 channels of data was required for complete thermal mapping of the model. However, the tunnel instrumentation was limited to 90 channels of data recording. Therefore, to obtain all data required, the testing sequence was broken into four groups. (Reference Table IV, which shows T/C hook-up grouping.) The first group was ET-A, recording data points on the External Tank in the presence of the Orbiter. The second group was Orbiter plus ET-B, which was recording data points on the Orbiter and External Tank. The third and fourth groups were Orbiter and External Tank alone, respectively.

In addition to the test sequence described above, each group was repeated utilizing boundary layer trips.

When the Orbiter alone configuration was being tested, only 57 of

the 90 data channels were utilized. However, the remaining thermocouples on the External Tank were measuring ambient temperatures in the tunnel injection chamber.

DATA REDUCTION

The thermocouple heat-transfer data were reduced using the one-dimensional thin wall heat transfer equation:

$$\dot{q} = W c b \frac{dT_w}{dt} \text{, Btu/ft}^2\text{-sec}$$

The density W for the model material was:

Material	Condition	W (Density)	
		Lbm/in^3	Lbm/ft^3
15-5 ph	H-1150	0.283	491

The theoretical stagnation point heat transfer rate was calculated for a scaled 1-foot diameter sphere using the Fay-Riddell equation:

$$\dot{q}_{ot} = 0.94 \, (\rho_w \, \mu_w)^{0.5} \, (\rho_o' \mu_o' / \, \rho_w \mu_w)^{0.4} \, (H_o - H_w) \, \left(\frac{d_u}{d_x}\right)^{0.5}$$

where:

$$\mu = \frac{0.0232 \times 10^{-6} \, T^{0.5}}{1 + (220/T)}$$

and: $$\frac{d_u}{d_x} = (1/r_s) \, [2RT \, (1 - P_\infty / P_o')]^{0.5}$$

Local heat transfer coefficients were computed for each T/C:

$$h_{local} = \dot{q}/rT_o - T_w$$

DATA REDUCTION (Continued)

The ratio of the local heat transfer coefficient to reference heat transfer coefficient was computed:

$$\frac{h_{local}}{h_{ref}}$$

where:

$$h_{ref} = \frac{\dot{q}}{rT_o - T_{aw}}$$

Recovery factors (r) of 0.85 and 0.90 were used.

The data figures present H/HREF and HI/HU. The H/HREF data actually represent HI/HREF and HU/HREF, interference and undisturbed flow data, respectively. The interference data were obtained with the Orbiter in the presence of the ET or vice versa while the undisturbed data were taken on the configurations alone. The condition that prevails can be determined by reading the configuration description in the plot legend and associating it with the appropriate symbol.

TABLE I

TEST : IH-17 DATE :

TEST CONDITIONS

M = 8.0

BECKMAN NO.	REYNOLDS NUMBER (million per foot)	TOTAL PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
1661	.1	21	770
1662	.5	96	790
1663	2.0	500	900
1664	5.0	680	935
1665	10.0	2525	1000
1666	.1	21	750
1667	5.0	750	950
1668	.1	21	760
1669	.5	83	775
1670	2.0	500	920
1671	5.0	750	930
1672	10.0	2500	960
1676	.1	18	750
1677	.5	82	815
5882	2.0	480	925
5883	5.0	775	925

BALANCE UTILIZED: N/A

	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE.
NF			
SF			
AF			
PM			
RM			
YM			

COMMENTS:

TABLE I (Continued)

TEST : IH-17

DATE :

TEST CONDITIONS

M = 8.0

BECKMAN NO.	REYNOLDS NUMBER (million per foot)	TOTAL PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
5884	10.0	2500	980
5885	.1	18	765
5886	5.0	725	920
5887	0.1	30	760
5888	0.5	82	800
5889	2.0	495	855
5890	5.0	715	920
5891	10.0	2510	975
5892	.1	18	775
5893	.5	81	815
5894	2.0	480	900
5895	5.0	725	935
5896	10.0	2500	990
572	.1	18	730
573	.5	83	760
574	2.0	445	880

BALANCE UTILIZED: N/A

	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF			
SF			
AF			
PM			
RM			
YM			

COMMENTS:

TABLE I (Continued)

TEST : IH-17

DATE :

TEST CONDITIONS

M = 8.0

BECKMAN NO.	REYNOLDS NUMBER (million per foot)	TOTAL PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
575	5.0	735	910
576	10.0	2505	995
577	.1	17	750
579	5.0	730	920
583	.1	21	750
584	5.0	720	920
585	—	BAD RUN	—
1171	.1	14	760
1172	.5	79	780
1173	2.0	485	900
1175	5.0	740	900
1176	10.0	2510	970
1177	.1	16	725
1178	.5	81	760
1179	2.0	470	900
1180	5.0	730	935

BALANCE UTILIZED: N/A

	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF			
SF			
AF			
PM			
RM			
YM			

COMMENTS:

TABLE I (Concluded)

TEST : IH-17			DATE :

TEST CONDITIONS

BECKMAN NO.	REYNOLDS NUMBER (million per foot)	TOTAL PRESSURE (pounds/sq. inch)	STAGNATION TEMPERATURE (degrees Fahrenheit)
1181	10.0	2510	990
1182	2.0	530	830
1183	5.0	725	900
1185	10.0	2520	995
1186	.1	15	755
1187	.5	80	800
1188	2.0	480	880
1189	5.0	720	905
1191	10.0	2520	975

BALANCE UTILIZED: N/A

	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
NF			
SF			
AF			
PM			
RM			
YM			

COMMENTS:

TABLE II

ORBITER + TANK

TEST: IH-17

DATA SET RUN NUMBER COLLATION SUMMARY

DATE:

DATA SET IDENTIFIER#	CONFIGURATION	SCHD. α	SCHD. β	MACH	Rn/l	NO. OF RUNS	ET-A	ET-B	ORB-A
RPR001	$O_1 + T_8$	0	0	8	.1		1661	1676	
002					.5		1662	1677	
003					2.0		1663	588[illegible]	
004					5.0		1664	5883	
005					10.0		1665	5884	
006		-5			.1		1666	5885	
007		-5			5.0		1667	5886	
008	$O_1 + T_8 + X_{23}$	0			.1		1186	5887	
009					.5		1187	5888	
010					2.0		1188	5889	
011					5.0		1189	5890	
012					10.0		1191	5891	

Fourth character code: RPR_xx

α or β [illegible]

B - ORBITER BODY

C - ORBITER CANOPY

T - EXTERNAL TANK

W - ORBITER LOWER WING

R data sets are [illegible] H/HREF

TABLE II (Continued)

TANK ALONE

TEST: IH-17						DATA SET/RUN NUMBER COLLATION SUMMARY	DATE:
DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	SCHD. β	PARAMETERS/VALUES MACH	PARAMETERS/VALUES Rn/l	NO. OF RUNS	MACH NUMBERS ET-A
RPRΔ13	T_8	0	0	8	.1		1171
Δ14					.5		1172
Δ15					2.0		1173
Δ16					5.0		1175
Δ17					10.0		1176
Δ18		-5			.1		583
Δ19		-5			5.0		584
Δ20	$T_8 + X_{23}$	0			.1		1171
Δ21					.5		1178
Δ22					2.0		1179
Δ23					5.0		1180
Δ24					10.0		1181

TEST RUN NUMBERS

1 7 13 19 25 31 37 43 49 55 61 67 75 76

COEFFICENTS

α OR β SCHEDULES

IDVAR (1) IDVAR (2) NDV

TABLE II (Concluded)

ORBITER ALONE

TEST: IH-17

DATA SET/RUN NUMBER COLLATION SUMMARY

DATE:

DATA SET IDENTIFIER	CONFIGURATION	SCHD. α	SCHD. β	MACH	Rn/l	NO. OF RUNS	MACH NUMBERS ORB-A
RPR025	$O_1 + X_{23}$	0	0	8	.1		5892
026					.5		5893
027					2.0		5894
028					5.0		5895
029					10.0		5896
030	O_1	-5			.1		577
031		-5			5.0		579
032		0			.1		572
033					.5		573
034					2.0		574
035					5.0		575
036					10.0		576

TEST RUN NUMBERS

1 7 13 19 25 31 37 43 49 55 61 67 75 76

COEFFICENTS IDVAR (1) IDVAR (2) NDV

α OR β SCHEDULES

TABLE III MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY - B_{10}

GENERAL DESCRIPTION : Fuselage, 2A configuration lightweight orbiter, per Rockwell lines VL70-000089B

MODEL SCALE: 0.00593

DRAWING NUMBER : VL70-000089B, VL70-000092, -093, -094A

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length	1328.3	7.89682
Max Width (@ X_0 = 1528.3), In.	265.0	1.57145
Max Depth (@ X_0 = 1480.52), In.	243.0	1.47064
Fineness Ratio	5.012	5.012
Area - Ft^2		
Max. Cross-Sectional	456.4	0.01605
Planform		
Wetted		
Base		

TABLE III (Cont'd)

MODEL COMPONENT: CANOPY - C_5

GENERAL DESCRIPTION: Orbiter canopy for lightweight orbiter configuration

MODEL SCALE: 0.00593

DRAWING NO.: VL70-000092

DIMENSIONS:	FULL SCALE	MODEL SCALE
Sta. Fwd Bulkhead, Ih.	391.0	2.31863
Sta. T.E. - In.	560.0	3.32080
Canopy/body intersection, In.	391.0	2.31863

TABLE III (Cont'd)

MODEL COMPONENT : MANIPULATOR HOUSING - D_7

GENERAL DESCRIPTION : 2A configuration

MODEL SCALE: 0.00593

DRAWING NUMBER : VL70-000093, SS-A00092

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length , In.	881.0	5.22433
Max Width , In.	51.0	0.30243
Max Depth , In.	23.0	0.13639
Fineness Ratio		
Area		
Max. Cross-Sectional		
Planform		
Wetted		
Base		

Location at:

Centerline fuselage:

BP = 0.0
WP = 500.0 In. FS
X_0 426.0 to X_0 1307.0 In. FS

TABLE III (Cont'd)

MODEL COMPONENT : BODY FLAP - F_4

GENERAL DESCRIPTION : Aft body flap used on lightweight orbiter configuration.

MODEL SCALE 0.00593

DRAWING NUMBER . VL70-000094A, SS-A00092

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length , In.	84.70	0.50227
Max Width , in.	265.00	1.57145
Max Depth		
Fineness Ratio		
Area - Ft^2		
Max. Cross-Sectional		
Planform	142.64	0.00502
Wetted		
Base	38.65	0.00136

TABLE III (Cont'd)

MODEL COMPONENT : OMS POD - M_3

GENERAL DESCRIPTION : 2A lightweight orbiter configuration.

MODEL SCALE: 0.00593

DRAWING NUMBER : VL70-000094A, SS-A00092

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length , In.	346.0	2.95178
Max Width (@ X_0 = 1450.0), In.	108.0	0.64044
Max Depth (@ X_0 = 1500.0), In.	113.8	0.67483
Fineness Ratio		
Area		
Max. Cross-Sectional		
Planform		
Wetted		
Base		

Centerline of OMS Pod:

Z_0 = 463.9 In. FS: WP 400 + 63.9 = 463.9 In.FS

Y_0 = 80.0 In. FS

Length: X_0 1214.0 to X_0 1560.0 = 346.0 In. FS

TABLE III (Cont'd)

MODEL COMPONENT: WING-W_{87}

GENERAL DESCRIPTION: Orbiter configuration. NOTE: Dihedral angle is defined at the lower surface of the wing at the 75.33% element line projected into a plane perpendicular to the FRL.

MODEL SCALE: 0.00593

TEST NO.

DWG. NO. VL70-000093

DIMENSIONS:	FULL-SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo.) Ft^2		
Planform	2690.0	0.09459
Span (Theo In.	936.682	5.55452
Aspect Ratio	2.265	2.265
Rate of Taper	1.177	1.177
Taper Ratio	0.200	0.200
Dihedral Angle, degrees	3.500	3.500
Incidence Angle, degrees	3.000	3.000
Aerodynamic Twist, degrees	+3.000	+3.000
Sweep Back Angles, degrees		
Leading Edge	45.000	45.000
Trailing Edge	- 10.240	- 10.240
0.25 Element Line	35.209	35.209
Chords:		
Root (Theo) B.P.0.0.	689.24	4.08919
Tip, (Theo) B.P.	137.85	0.81745
MAC	474.81	2.81562
Fus. Sta. of .25 MAC	1136.89	6.74176
W.P. of .25 MAC	299.20	1.77426
B.L. of .25 MAC	182.13	1.08003
EXPOSED DATA		
Area (Theo) Ft^2	1752.29	0.06162
Span, (Theo) In. BP108	720.68	4.27363
Aspect Ratio	2.058	2.058
Taper Ratio	0.245	0.245
Chords		
Root BP108	562.40	3.33503
Tip 1.00 $\frac{b}{2}$	137.85	0.81745
MAC	393.03	2.33067
Fus. Sta. of .25 MAC	1185.31	7.02889
W.P. of .25 MAC	300.20	1.78019
B.L. of .25 MAC	143.76	0.85250
Airfoil Section (Rockwell Mod NASA) XXXX-64		
Root $\frac{b}{2}$ =	0.10	0.10
Tip $\frac{b}{2}$ =	0.12	0.12
Data for (1) of (2) Sides		
Leading Edge Cuff		
Planform Area Ft^2	120.33	0.00423
Leading Edge Intersects Fus M. L. @ Sta	560.0	3.32020
Leading Edge Intersects Wing @ Sta	1035.0	6.13755

TABLE III (Cont'd)

MODEL COMPONENT: VERTICAL - V_5

GENERAL DESCRIPTION: Centerline vertical tail, double-wedge airfoil with rounded leading edge.

MODEL SCALE: 0.00593

DRAWING NUMBER: VL70-000095, SS-A00092

DIMENSIONS:	FULL SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo) - Ft^2		
Planform	413.25	0.01453
Span (Theo) - In.	315.72	1.87222
Aspect Ratio	1.675	1.675
Rate of Taper	0.507	0.507
Taper Ratio	0.404	0.404
Sweep-Back Angles, Degrees.		
Leading Edge	45.000	45.000
Trailing Edge	26.249	26.249
0.25 Element Line	41.130	41.130
Chords:		
Root (Theo) WP	268.50	1.59220
Tip (Theo) WP	108.47	0.62323
MAC	199.81	1.18487
Fus. Sta. of .25 MAC	1463.50	8.67856
W.P. of .25 MAC	635.52	3.76863
B.L. of .25 MAC	0.0	0.0
Airfoil Section		
Leading Wedge Angle - Deg.	10.00	10.00
Trailing Wedge Angle - Deg.	14.92	14.92
Leading Edge Radius	2.00	0.00186
Void Area	13.17	0.00046
Blanketed Area	12.67	0.00045

TABLE III (Cont'd)

MODEL COMPONENT : EXTERNAL TANK - T_8

GENERAL DESCRIPTION : External oxygen-hydrogen tank lightweight orbiter configuration to which the orbiter and the two solid rocket motors attach.

MODEL SCALE: 0.00593

DRAWING NUMBER : VL70-00061C, VL78-000018, SS-A00093

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length , In.	1989.0	11.79477
Max Width (Dia.), In.	324.0	1.92132
Max Depth		
Fineness Ratio	6.1389	6.1389
Area - Ft^2		
Max. Cross-Sectional		
Planform		
Wetted		
Base		
WP of tank centerline (Z_T), In.	400.0	2.3720

TABLE IV. THERMOCOUPLE GROUPINGS

GROUPING	THERMOCOUPLE NUMBERS
ET-A	ET-1, 3-8, 10, 12-14, 18-21, 25-26, 30, 32-43, 46-57, 60-72, 76-86, 90-100, 103-111
ET-B	ET-2, 9, 11, 15-17, 22-24, 27-29, 31, 44-45, 58-59, 73-75, 87-89, 100-102
ORB-A	ORB 1-57

TABLE V

Orbiter Thermocouple Locations

T/C No.	Skin Thick.	* Location y - b/2	* Location x/l - x/c	Remarks	T/C No.	Skin Thick.	* Location y - b/2	* Location x/l - x/c	Remarks
1	.033	Y=.047	.1536	Windshield	31	.0315	Y=.415	1.00	Fuselage
2	.031	Y=.047	.1612		32	.0315	b/2=.40	.225	Wing
3	.034	Y=.047	.1694		33	.033		.250	
4	.0375	Y=.213	.1588		34	.0312		.300	
5	.0375	Y=.196	.1657		35	.033		.400	
6	.0335	Y=.178	.1724		36	.0335		.500	
7	.033	Y=0	.0875	Fuselage	37	.032		.600	
8	.032		.100		38	.0315		.700	
9	.031		.125		39	.0315		.800	
10	.0305		.150		40	.0310		.900	
11	.030		.175		41	.034	b/2=.60	.175	
12	.031		.200		42	.032		.200	
13	.0295		.250		43	.031		.300	
14	.0295		.300		44	.033		.400	
15	.0295		.400		45	.032		.500	
16	.0302		.500		46	.032		.600	
17	.0312		.600		47	.0325		.700	
18	.0315		.700		48	.031		.800	
19	.031		.800		49	.0315		.875	
20	.0295		.900		50	.035	b/2=.80	.250	
21	.030		1.00		51	.033		.300	
22	.0305		1.025		52	.033		.400	
23	.0285	Y=.415	.350		53	.0315		.500	
24	.0285		.375		54	.032		.600	
25	.0315		.400		55	.032		.700	
26	.0325		.500		56	.0335		.800	
27	.0320		.600		57	.033		.850	
28	.0315		.700						
29	.0325		.800						
30	.0315		.900						

* model scale, in.

x/l (t/c's 1- 31)

x/c (t/c's 32 57)

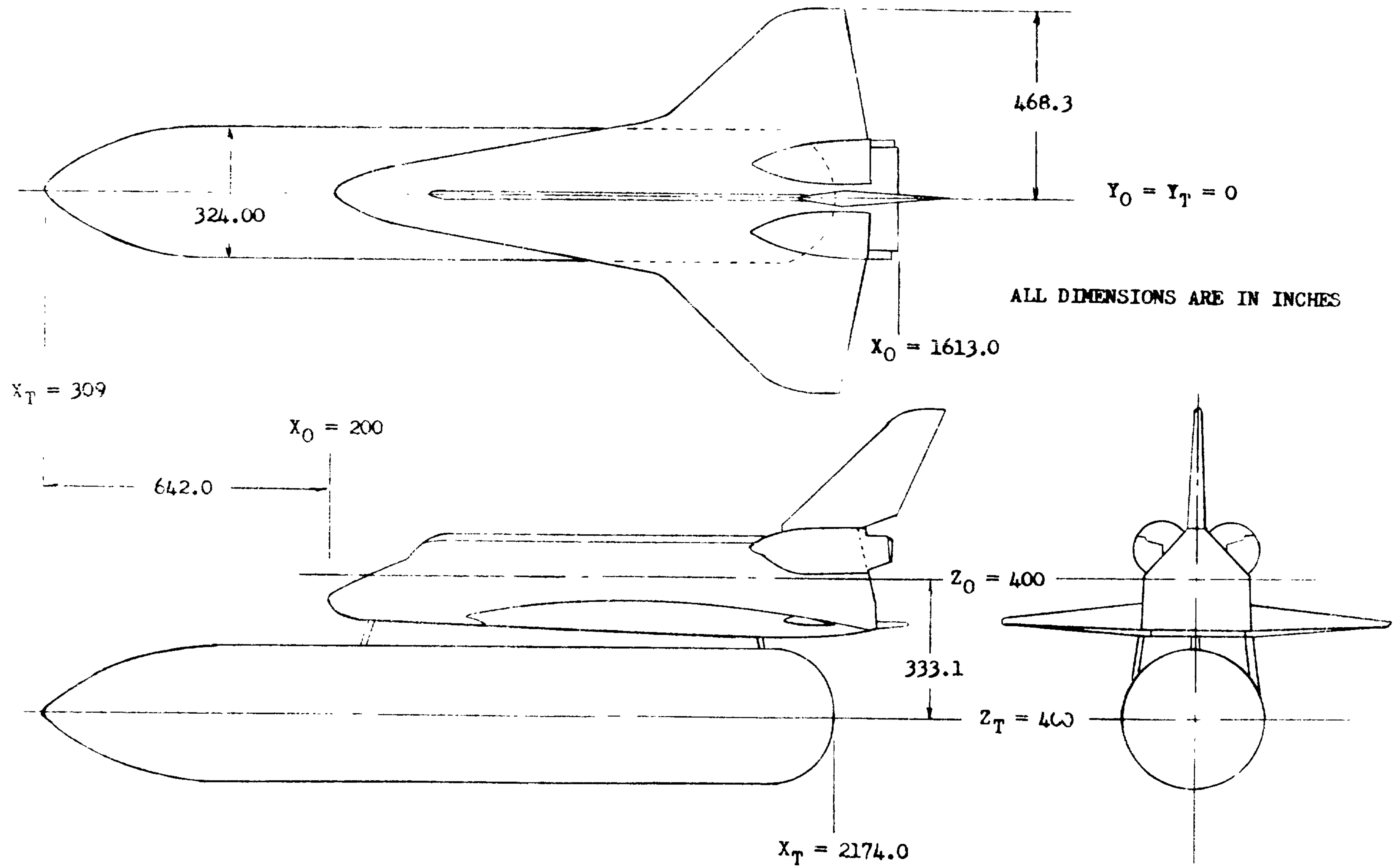
TABLE VI

External Tank Thermocouple Locations

T/C No.	Skin Thick.	Location x/l	Location φ~deg.	T/C No	Skin Thick.	Location x/l	Location φ~deg.	T/C No.	Skin Thick.	Location x/l	Location φ~deg
1	.037	0	Nose	34	.032	.40	135	67	.030	.60	[illegible]
2	.030	.005	180	35	.033	.40	112.5	68	.030	.60	0
3	.030	.01		36	.033	.40	90	69	.033	.625	180
4	.030	.02		37	.030	.40	67.5	70	.033	.65	180
5	.030	.04		38	.029	.40	45	71	.032	.65	157.5
6	.030	.06		39	.031	.40	0	72	.031	.65	135
7	.029	.08		40	.032	.425	180	73	.030	.65	112.5
8	.029	.10		41	.032	.45	180	74	.030	.65	90
9	.028	.125		42	.033	.45	157.5	75	.030	.65	67.5
10	.028	.15		43	.031	.45	135	76	.033	.675	180
11	.028	.175		44	.031	.45	112.5	77	.033	.70	180
12	.028	.20	↓	45	.031	.45	0	78	.032	.70	157.5
13	.028	.20	90	46	.033	.475	180	79	.032	.70	135
14	.032	.25	180	47	.033	.50	180	80	.031	.70	112.5
15	.029	.25	90	48	.033	.50	157.5	81	.030	.70	90
16	.030	.275	112.5	49	.032	.50	135	82	.031	.70	67.5
17	.030	.275	90	50	.033	.50	112.5	83	.029	.70	45
18	.034	.30	180	51	.031	.50	90	84	.033	.75	180
19	.031	.30	112.5	52	.031	.50	67.5	85	.033	.75	157.5
20	.031	.30	90	53	.030	.50	45	86	.032	.75	135
21	.030	.30	67.5	54	.032	.525	180	87	.031	.75	112.5
22	.031	.325	135	55	.032	.55	180	88	.031	.75	90
23	.031	.325	112.5	56	.033	.55	157.5	89	.030	.75	67.5
24	.031	.325	90	57	.031	.55	135	90	.033	.80	180
25	.032	.35	180	58	.031	.55	112.5	91	.033	.80	157.5
26	.032	.35	135	59	.031	.55	90	92	.032	.80	135
27	.031	.35	112.5	60	.032	.575	180	93	.032	.80	112.5
28	.031	.35	90	61	.032	.60	180	94	.031	.80	90
29	.031	.35	67.5	62	.033	.60	157.5	95	.030	.80	67.5
30	.034	.375	180	63	.031	.60	135	96	.029	.80	45
31	.032	.375	135	64	.031	.60	112.5	97	.030	.80	0
32	.033	.40	180	65	.031	.60	90	98	.033	.85	180
33	.032	.40	157.5	66	.031	.60	67.5	99	[illegible]	.85	157.5

TABLE VI (Continued)

T C No	Skin Thick	Location	
		x/l	ϕ~deg
100	.032	[illegible]	135
101	.030	.85	112.5
102	.030	.85	90
103	.033	.90	180
104	.033	.90	157.5
105	.032	.90	135
106	.032	.90	112.5
107	.031	.90	90
108	.030	.90	67.5
109	.02[illegible]	.90	45
110	.03[illegible]	.935	180
111	.03[illegible]	.[illegible]4	180

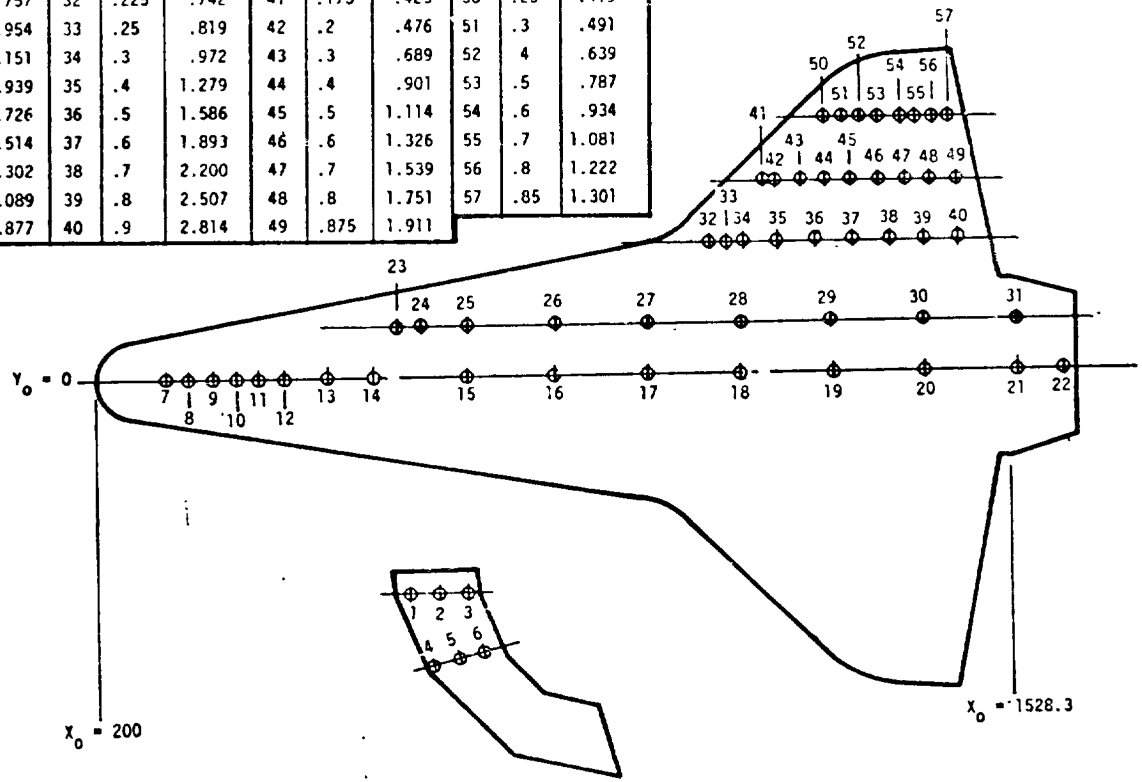


a. General Arrangement

Figure 1. Model Configuration

THERMOCOUPLE LOCATIONS

WINDSHIELD			Y_o 0			BP 70, Y = .415			.4 b/2, Y = 1.111			.6 b/2, Y = 1.667			.8 b/2, Y = 2.222		
NO.	DIST. FROM x_o 200	Y	NO.	X/L	DIST. FROM X_o 200	NO	X/L	DISTR. FROM X_o 200		X/C	DISTR. FROM L.E.	NO.	X/C	DISTR. FROM L.E.	NO.	X/C	DIST. FROM L.E.
1	1.210	.047	7	.0875	.689	23	.35	2.757	32	.225	.742	41	.175	.423	50	.25	.419
2	1.272	.047	8	.100	.788	24	.375	2.954	33	.25	.819	42	.2	.476	51	.3	.491
3	1.334	.047	9	.125	.985	25	.4	3.151	34	.3	.972	43	.3	.689	52	4	.639
4	1.251	.213	10	.150	1.182	26	.5	3.939	35	.4	1.279	44	.4	.901	53	.5	.787
5	1.305	.196	11	.175	1.378	27	.6	4.726	36	.5	1.586	45	.5	1.114	54	.6	.934
6	1.358	.178	12	.20	1.595	28	.7	5.514	37	.6	1.893	46	.6	1.326	55	.7	1.081
			13	.25	1.969	29	.8	6.302	38	.7	2.200	47	.7	1.539	56	.8	1.222
			14	.3	2.363	30	.9	7.089	39	.8	2.507	48	.8	1.751	57	.85	1.301
			15	.4	3.151	31	1.0	7.877	40	.9	2.814	49	.875	1.911			
			16	.5	3.939												
			17.	.6	4.726												
			18	.7	5.514												
			19	.8	6.302												
			20	.9	7.089												
			21	1.0	7.877												
			22	1.025	8.074												



b. Orbiter Thermocouple Locations

Figure 1 (Continued)

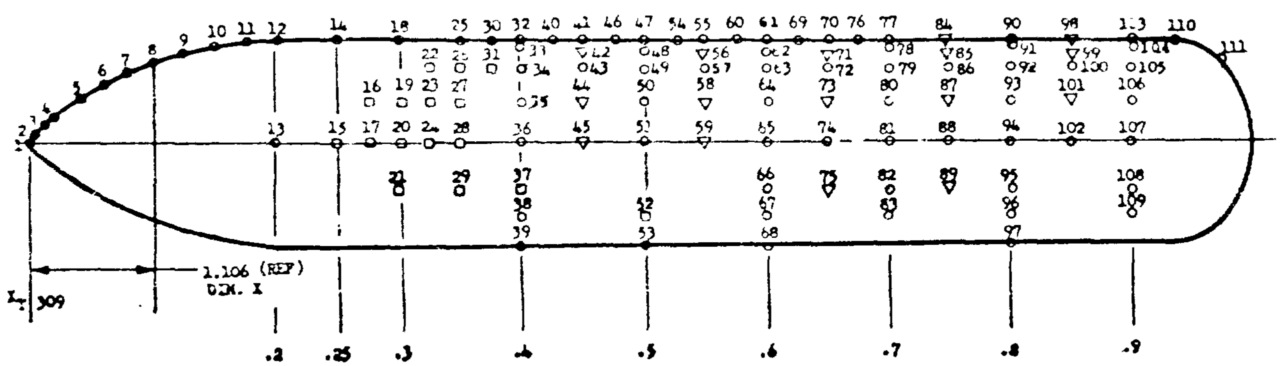
T/C NO.	DIM. X	
1	0	180°
2	.055	180°
3	.111	
4	.221	
5	.442	
6	[illegible]	
7	.885	
8	1.106	
9	1.382	
10	1.659	
11	1.935	
12	2.212	180°
13	2.212	90°
14	2.765	180°
15	2.765	90°
16	3.041	112°30'
17	3.041	90°
18	3.318	180°
19		112°30'
20		90°
21	3.318	67°30'
22	3.594	135°
23	3.594	112°30'
24	3.594	90°
25	3.871	180°

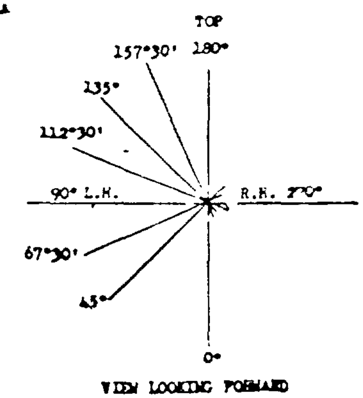
T/C NO.	DIM. X	
26	3.871	135°
27		112°30'
28		90°
29	3.871	67°30'
30	4.147	180°
31	4.147	135°
32	4.424	180°
33		157°30'
34		135°
35		112°30'
36		90°
37		67°30'
38		45°
39	4.424	0°
40	4.700	180°
41	4.977	180°
42		157°30'
43		135°
44		112°30'
45	4.977	90°
46	5.253	180°
47	5.530	180°
48		157°30'
49		135°
50	5.530	112°30'

T/C NO.	DIM. X	
51	5.530	90°
52	5.530	67°30'
53	5.530	45°
54	5.806	180°
55	6.082	180°
56		157°30'
57		135°
58		112°30'
59	6.082	90°
60	6.359	180°
61	6.635	180°
62		157°30'
63		135°
64		112°30'
65		90°
66		67°30'
67		45°
68	6.638	0°
69	6.912	180°
70	7.188	180°
71		157°30'
72		135°
73		112°30'
74		90°
75	7.188	67°30'

T/C NO.	DIM. X	
76	7.465	180°
77	7.741	180°
78		157°30'
79		135°
80		112°30'
81		90°
82		67°30'
83	7.741	45°
84	8.294	180°
85		157°30'
86		135°
87		112°30'
88		90°
89	8.294	67°30'
90	8.847	180°
91		157°30'
92		135°
93		112°30'
94		90°
95		67°30'
96		45°
97	8.847	0°
98	9.400	180°
99	9.400	157°30'
100	9.400	135°

T/C NO.	DIM. X	
101	9.400	112°30'
102	9.400	90°
103	9.953	180°
104		157°30'
105		135°
106		112°30'
107		90°
108		67°30'
109	9.953	45°
110	10.336	180°





41-OTS 0.006 External Tank Thermocouple Locations

c. External Tank Thermocouple Locations

Figure 1. (Concluded)

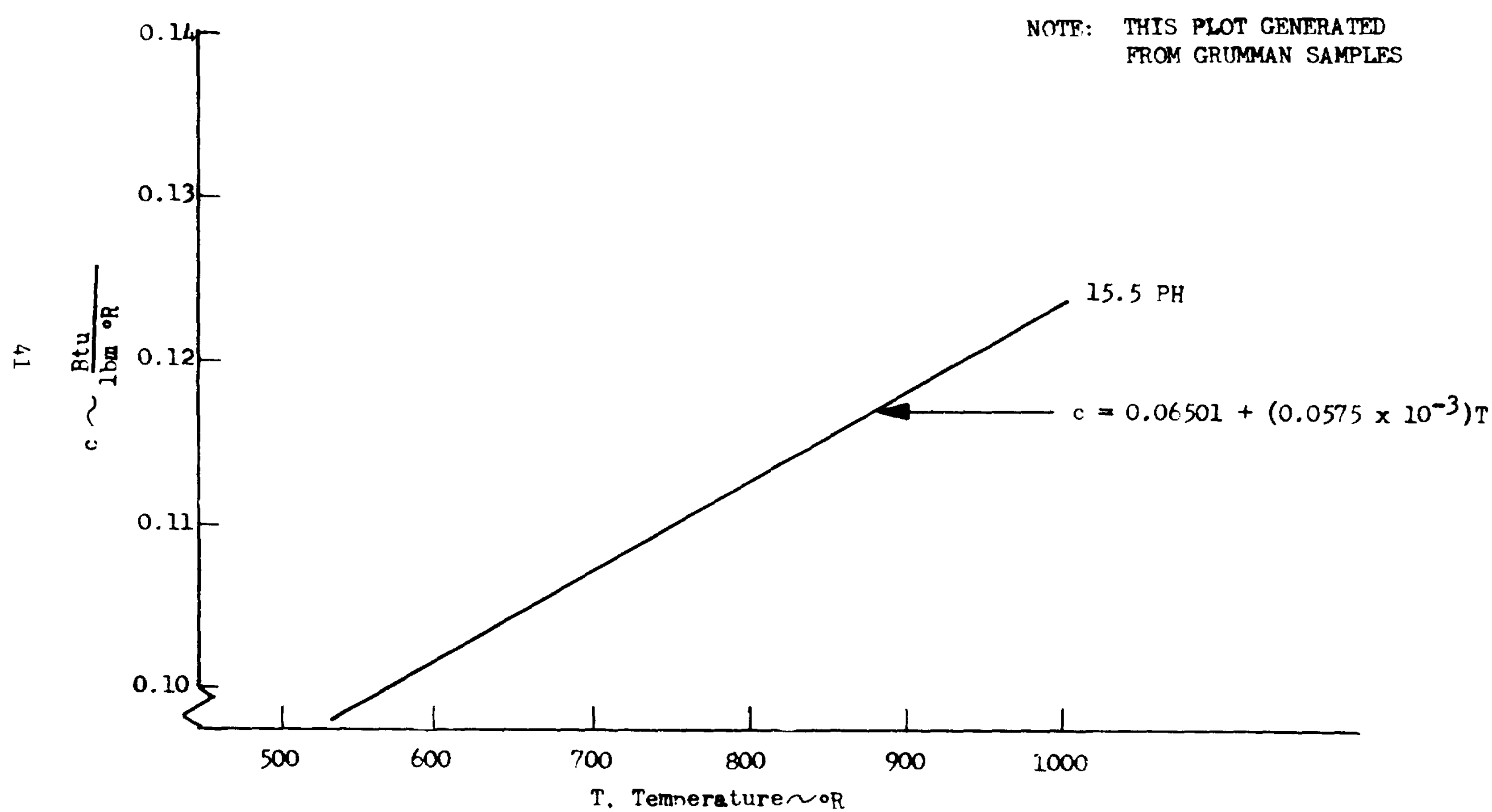
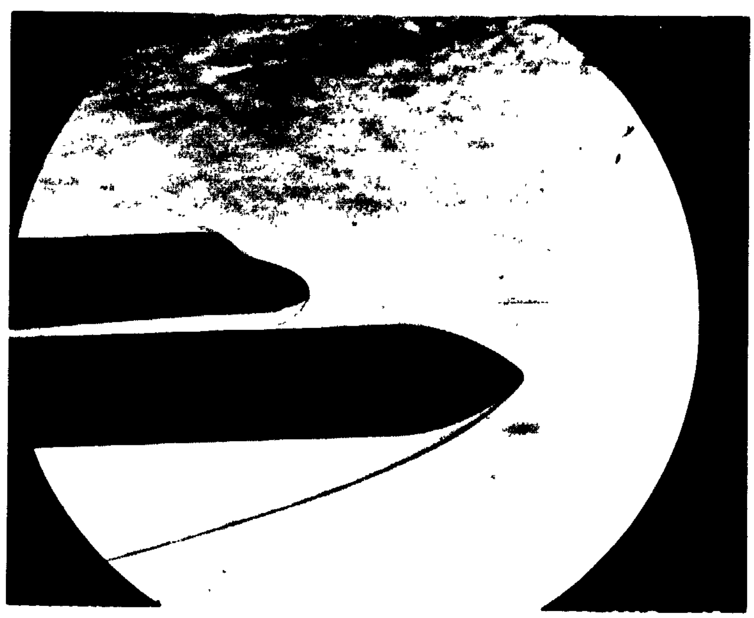


Figure 2. Specific Heat vs. Temperature for 15-5 ph Stainless Steel

a. Model Installation/Orientation

Figure 3. Model Photographs

b. Schlieren of Mated Configuration with #25 (.030 Dia.) Sand Grit P_o = 83 psig, T_o = 775°F, α = 0°)



c. Schlieren of Mated Configuration with #25 (.030 Dia.) Sand Grit (particles blown off) (P_o = 750 psig, T_o = 930°F, α = 0°)

Figure 3. (Continued)

d. Schlieren of Mated Configuration with .0625 Dia. Steel Balls
(P_o = 495 psig, T_o = 855^oF, α = 0^o)

e. Schlieren of Mated Configuration with 0.0468 Dia. Steel Balls
(P_o = 480 psig, T_o = 880^oF; α = 0^o)

Figure 3. (Concluded)

DATA FIGURES

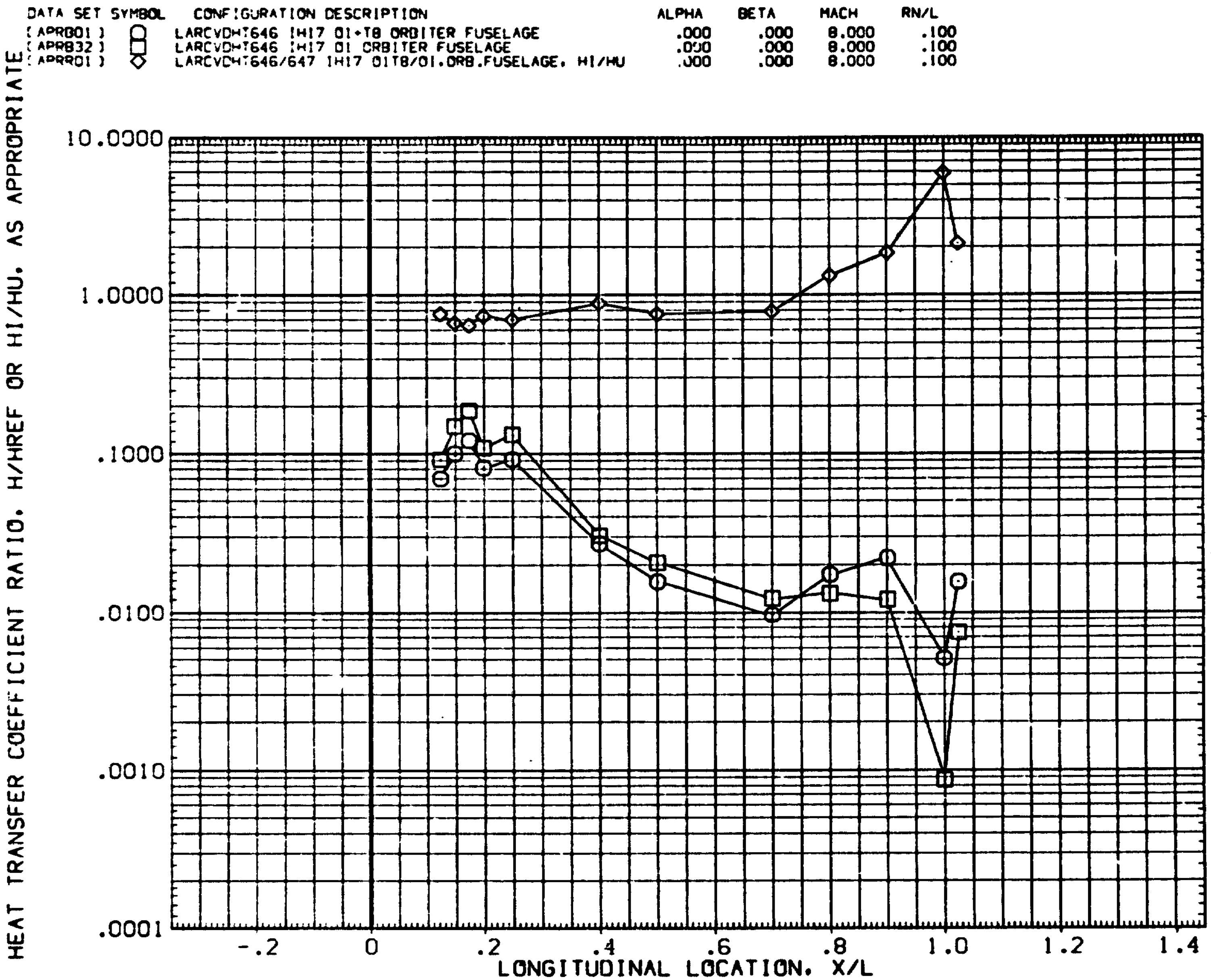


FIG. 4 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 Y(BP) = .000

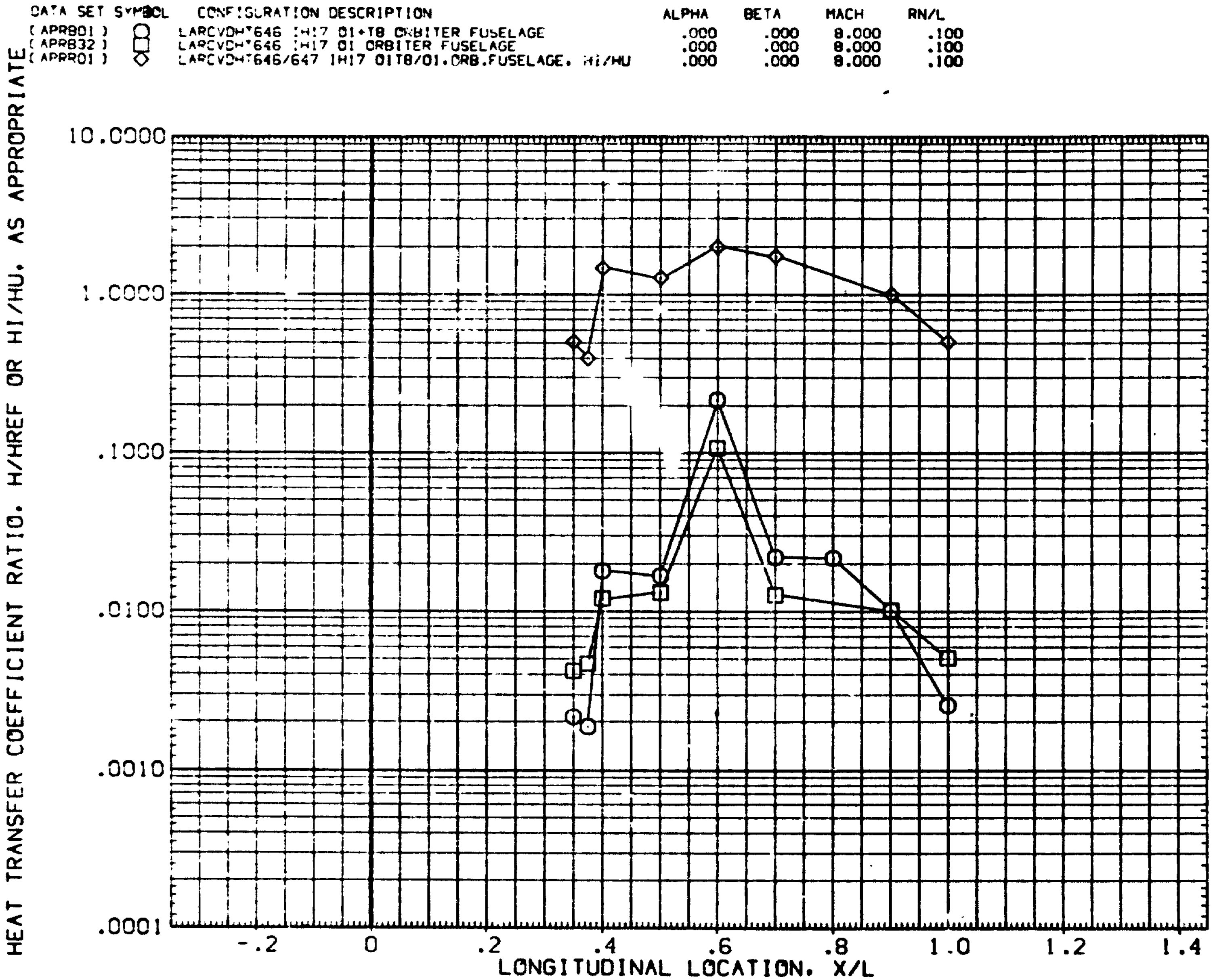


FIG. 4 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 Y(BP) = 70.000

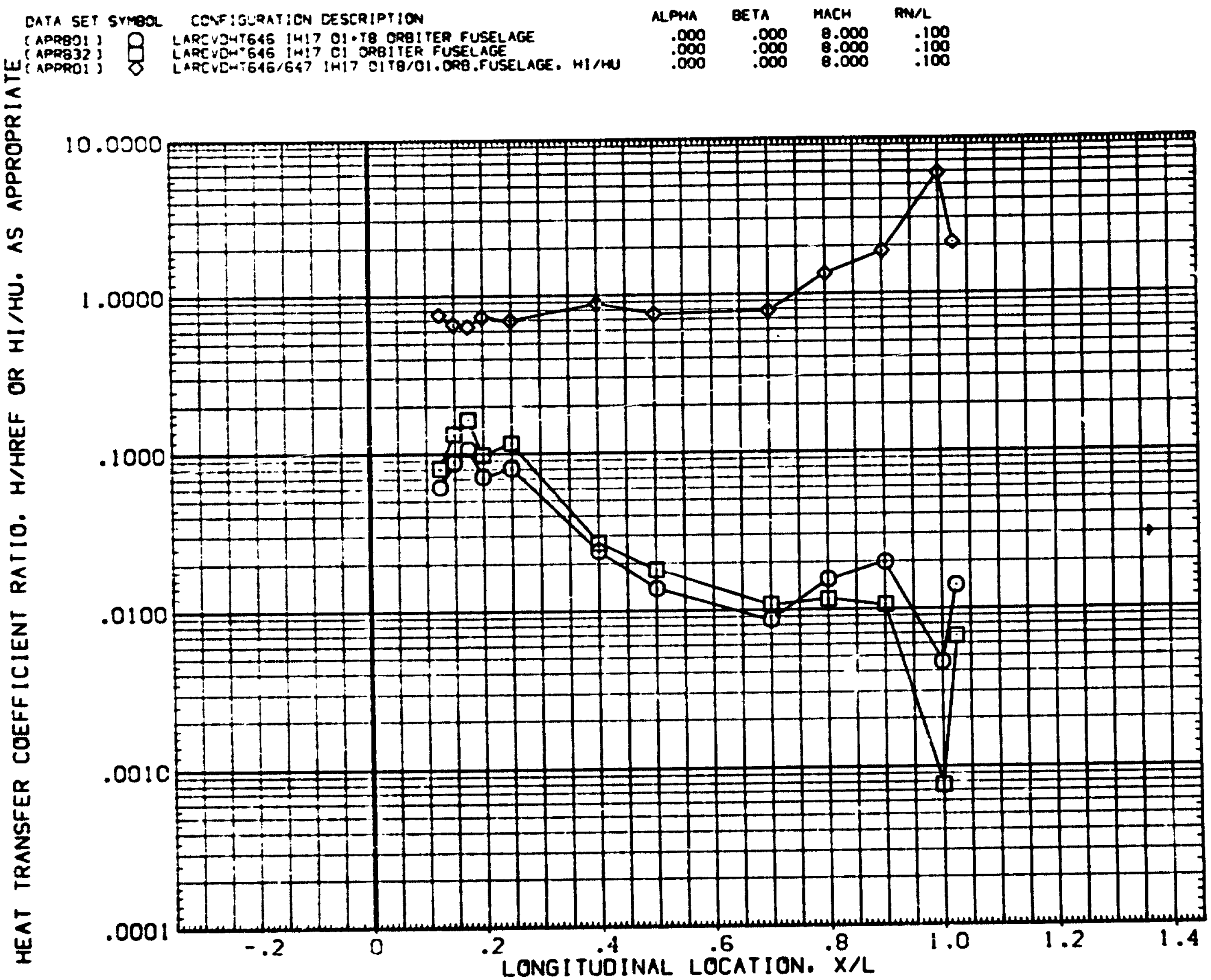


FIG. 4 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=0.1. ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 Y(BP) = .000

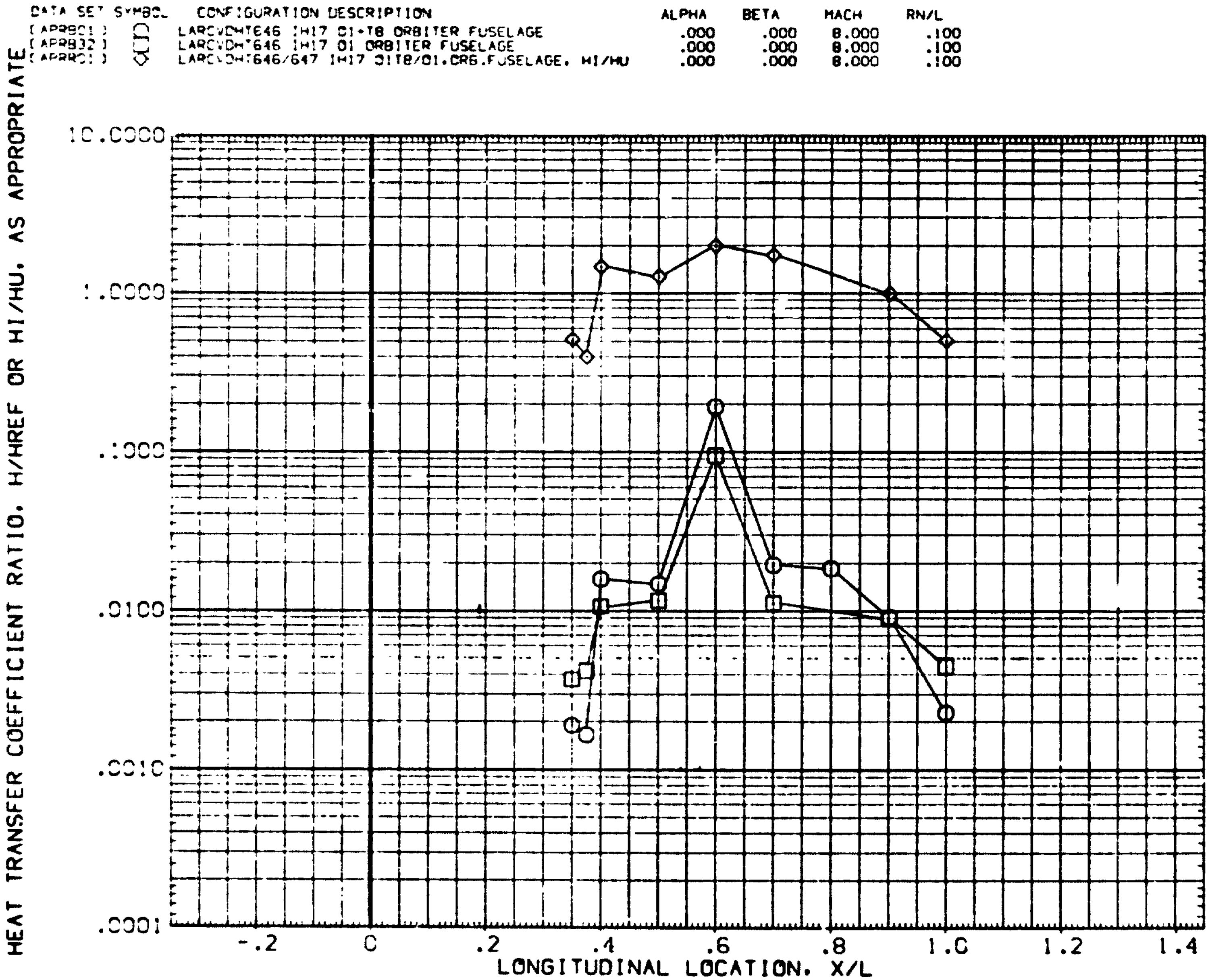


FIG. 4 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 Y(BP) = 70.000 PAGE 4

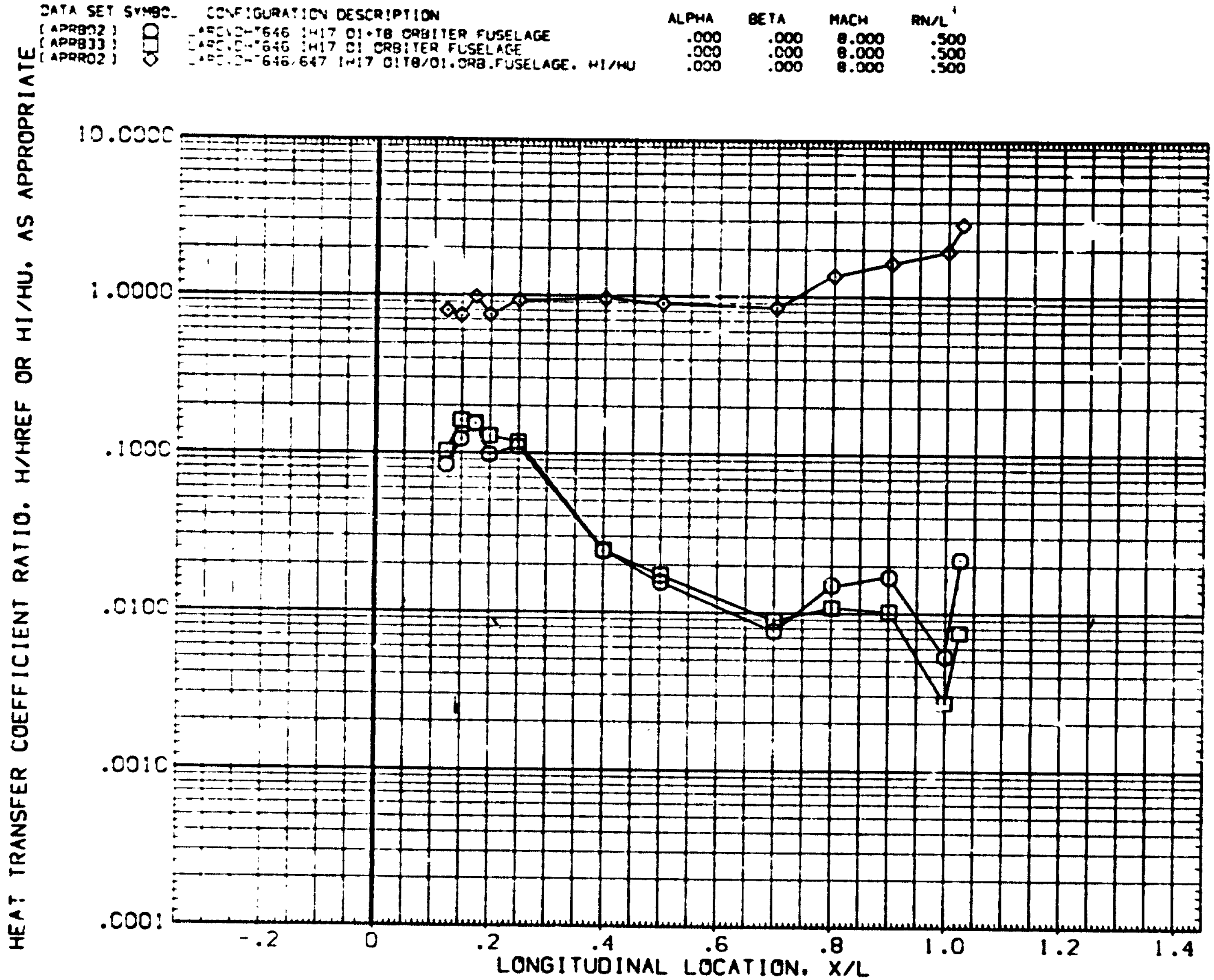


FIG. 5 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .000 HW/HT= .850 Y(BP) = .000

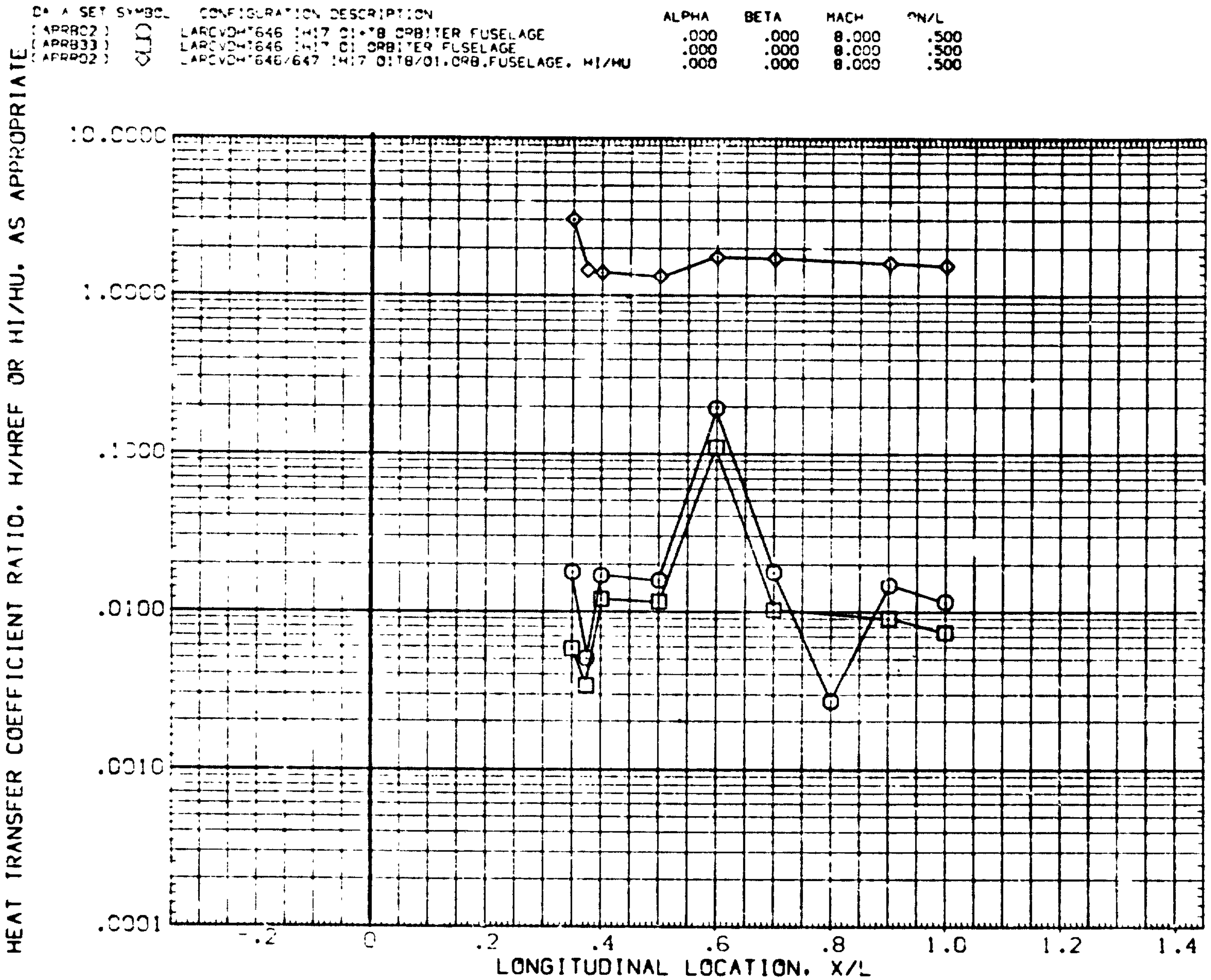


FIG. 5 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT = .850 Y(BP) = 70.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APPB02)	○	LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE	.000	.000	8.000	.500
(APPB33)	□	LARCVDHT646 IH17 O1 ORBITER FUSELAGE	.000	.000	8.000	.500
(APPR02)	◇	LARC DHT646/647 IH17 O1T8/O1.ORB.FUSELAGE. HI/HU	.000	.000	8.000	.500

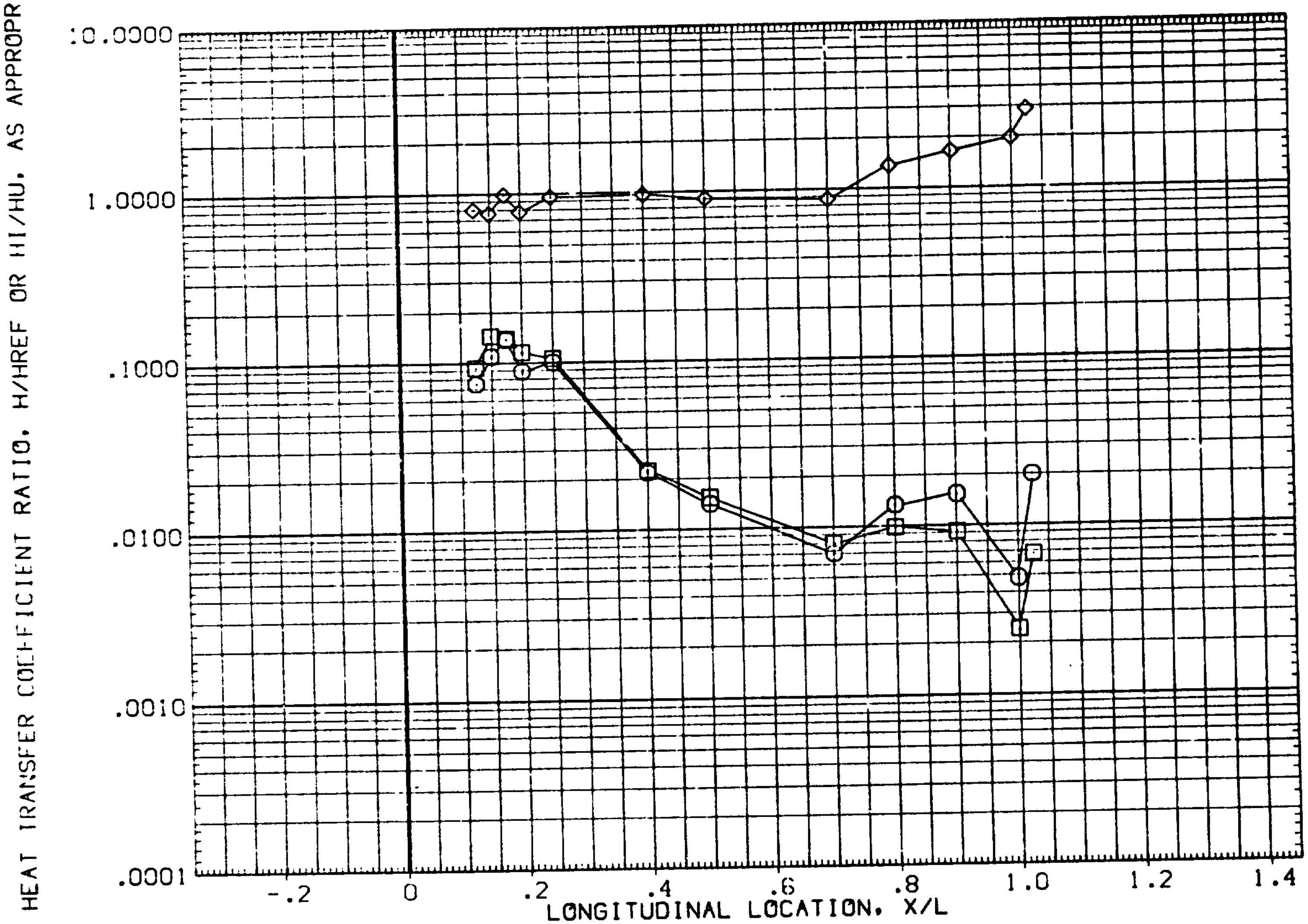


FIG. 5 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 Y(BP) = .000

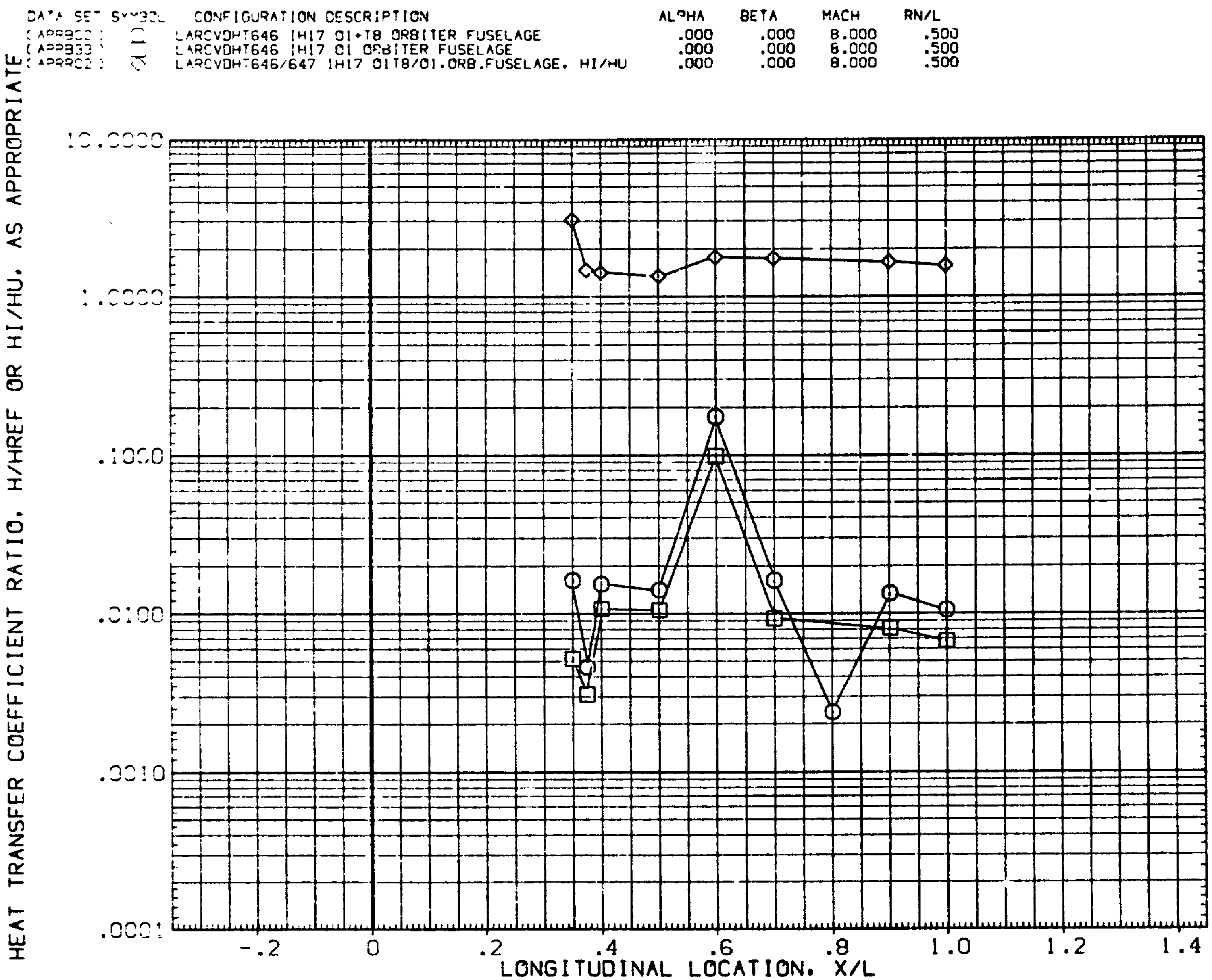


FIG. 5 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 Y(BP) = 70.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APR803)	○	LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE	.000	.000	8.000	2.000
(APR934)	□	LARCVDHT646 IH17 O1 ORBITER FUSELAGE	.000	.000	8.000	2.000
(APRR03)	◇	LARCVDHT646/647 IH17 O1T8/O1.ORB.FUSELAGE. HI/HU	.000	.000	8.000	2.000

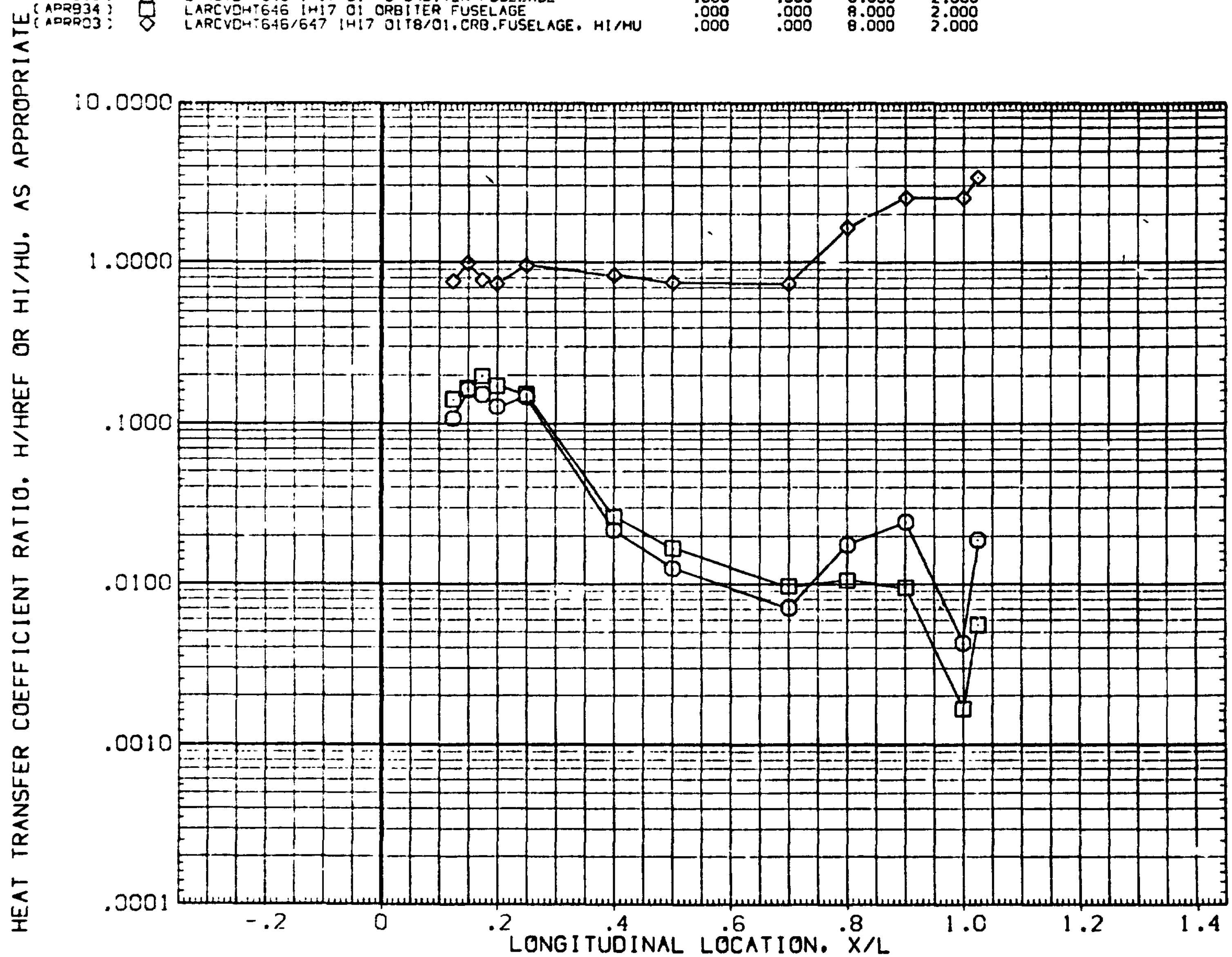


FIG. 6 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 Y(BP) = .000

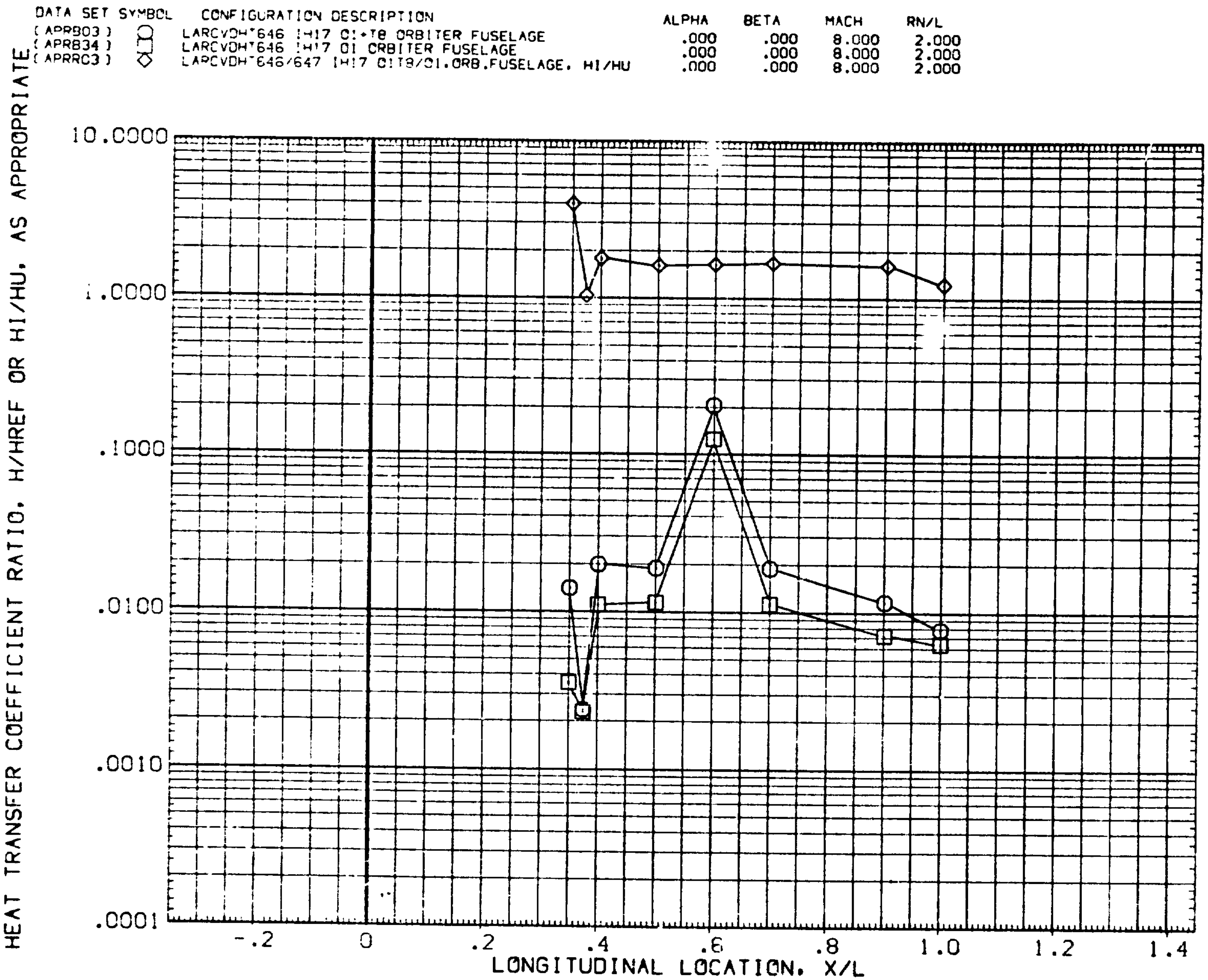


FIG. 6 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 Y(BP) = 70.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRB03)	○	LARC/OH7646 IH17 O1+T8 ORBITER FUSELAGE	.000	.000	8.000	2.000
(APRB34)	□	LARC/OH7646 IH17 O1 ORBITER FUSELAGE	.000	.000	8.000	2.000
(APRPC3)	◇	LARC/OH7646/647 IH17 O1T8/O1.ORB.FUSELAGE. HI/HU	.000	.000	8.000	2.000

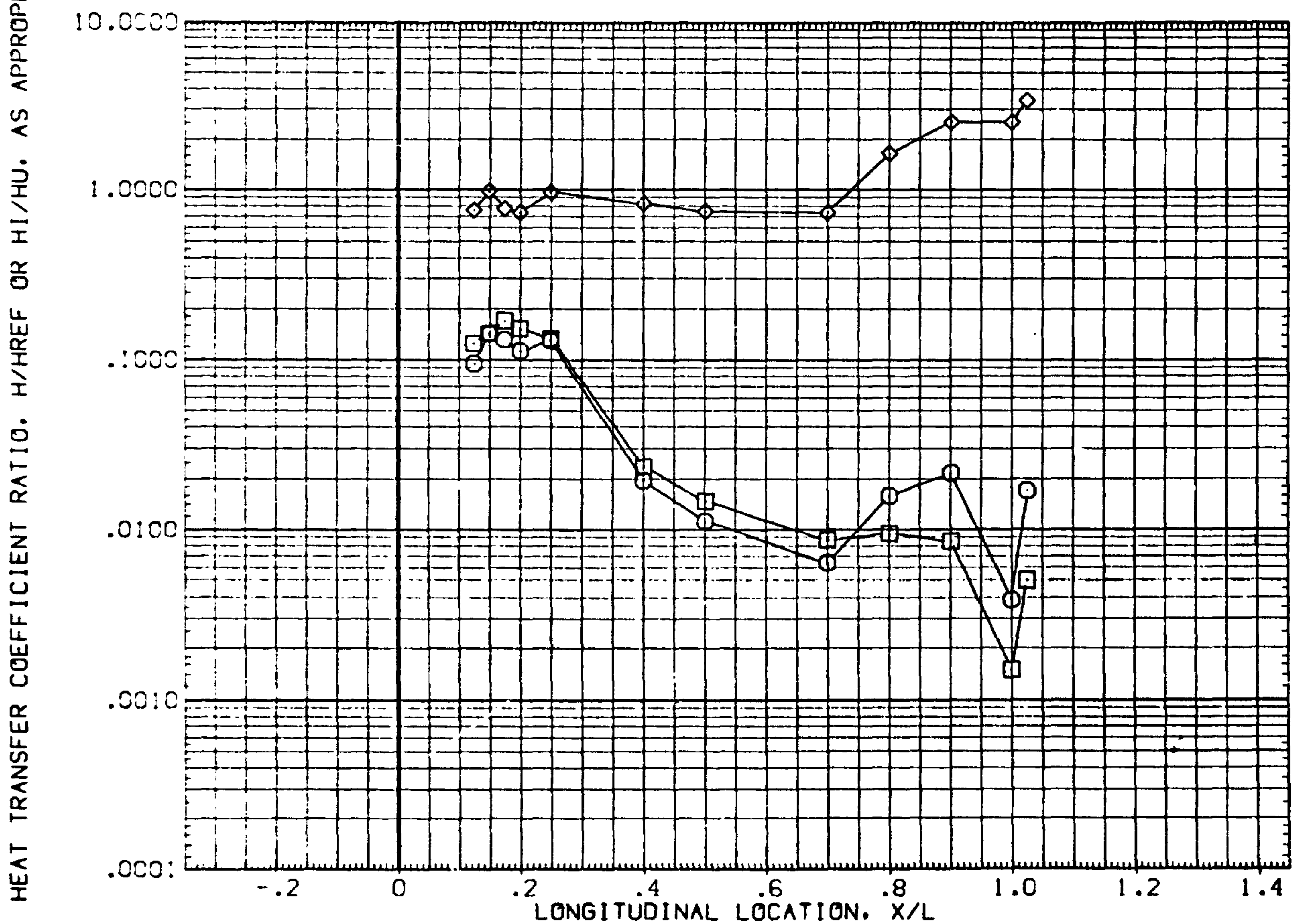


FIG. 6 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 Y(BP) = .000

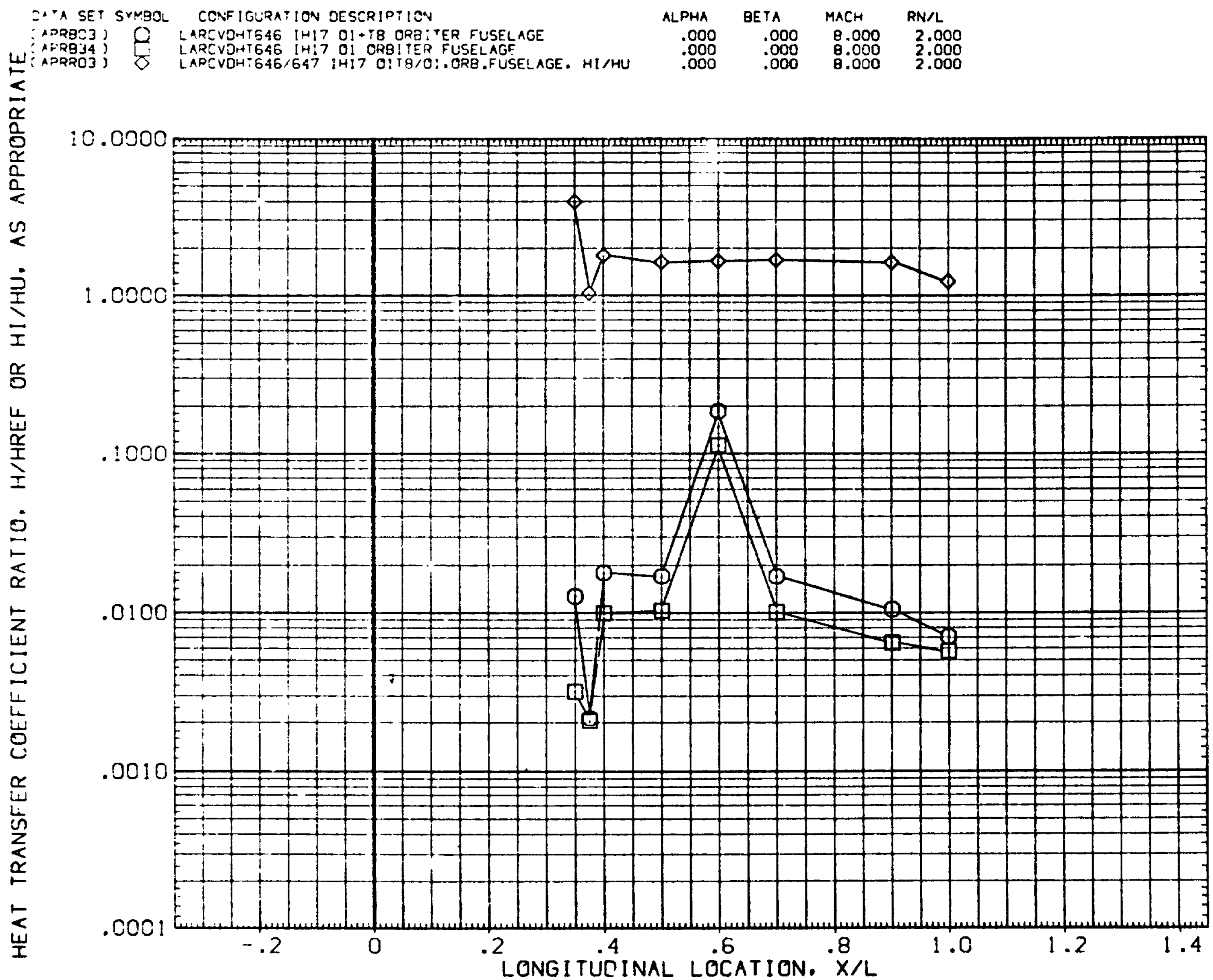


FIG. 6 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 Y(BP) = 70.000

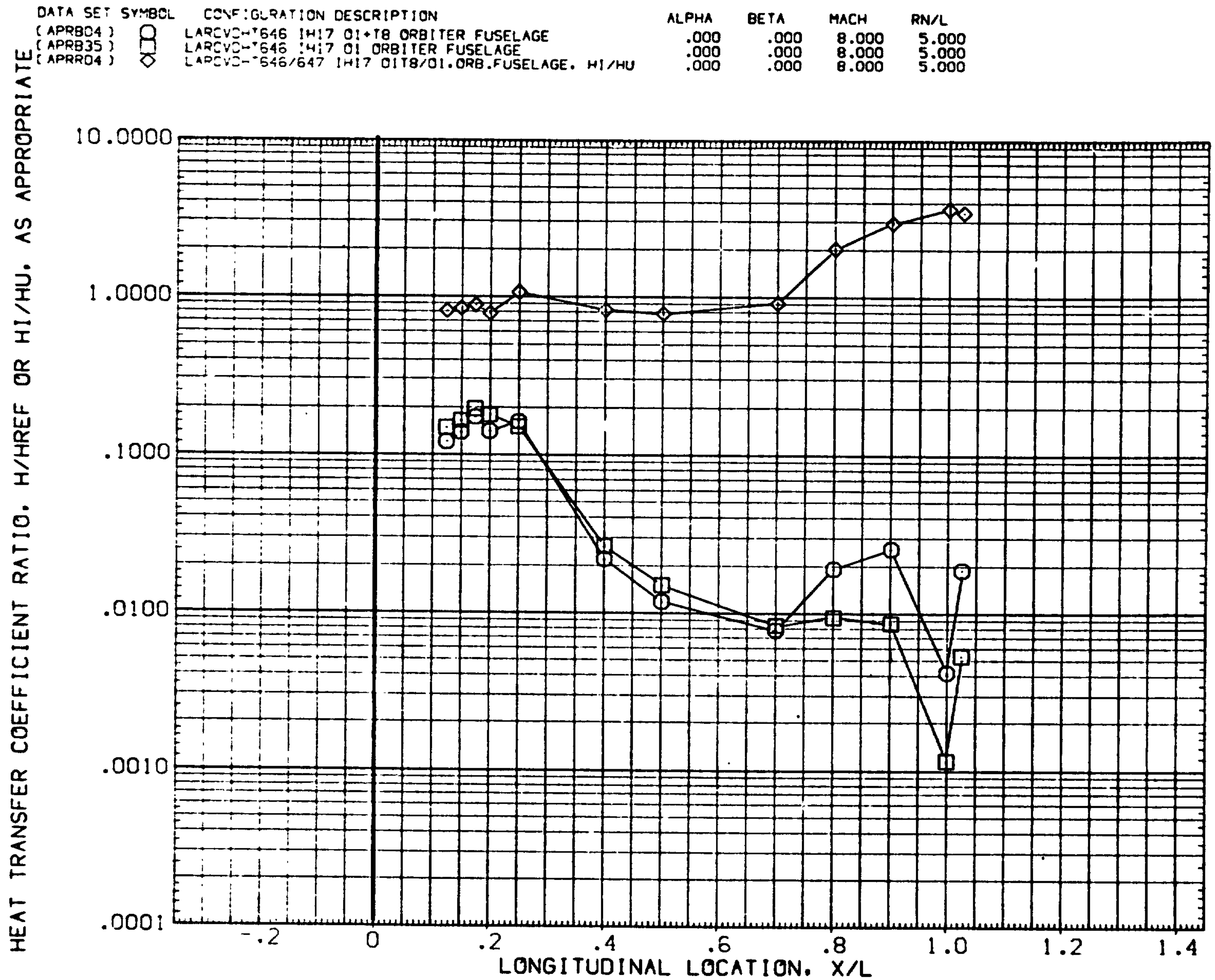


FIG. 7 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 Y(BP) = .000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRB04)	○	LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE	.000	.000	8.000	5.000
(APRB35)	□	LARCVDHT646 IH17 O1 ORBITER FUSELAGE	.000	.000	8.000	5.000
(APRR04)	◇	LARCVDHT646/647 IH17 O1T8/O1.ORB.FUSELAGE. HI/HU	.000	.000	8.000	5.000

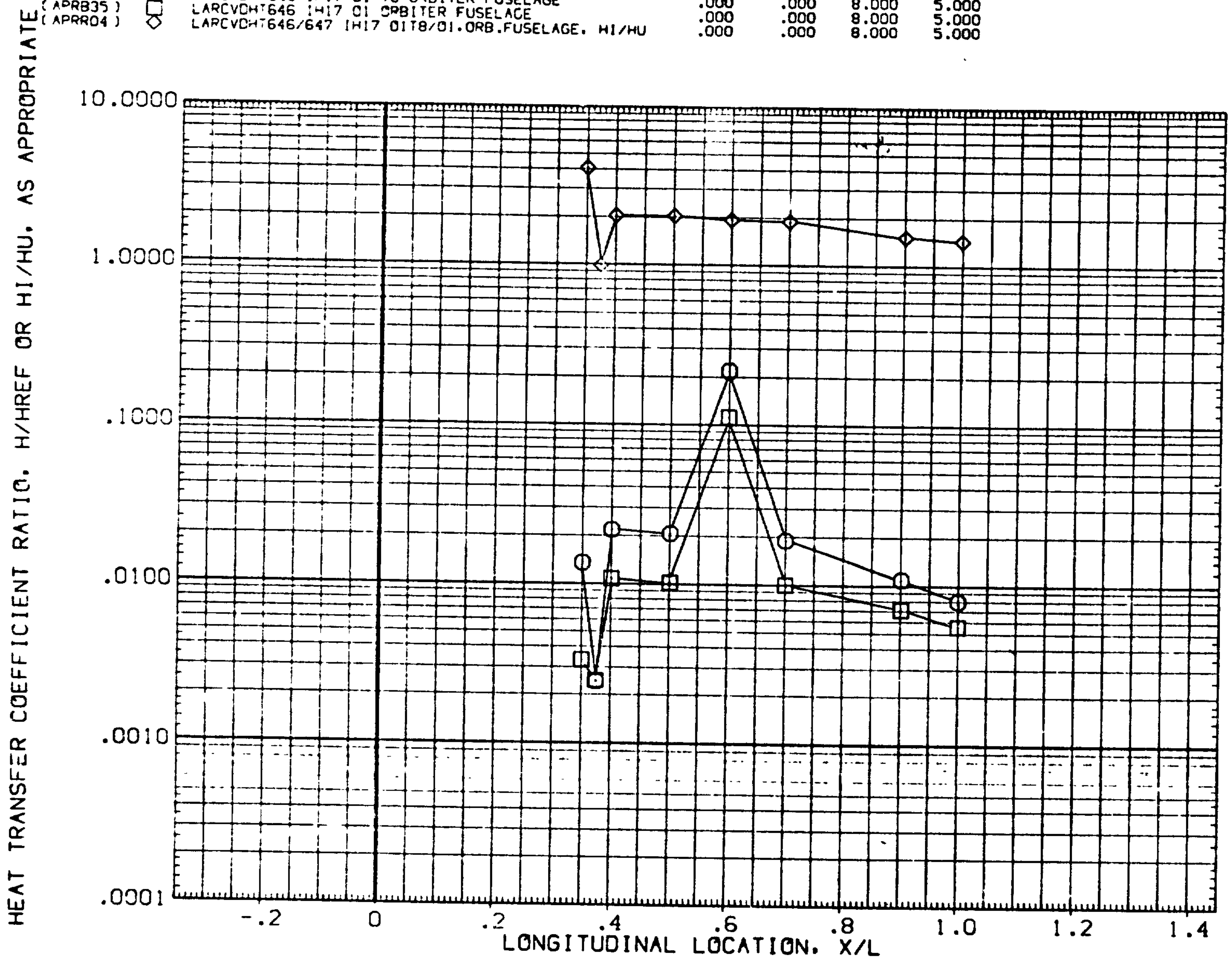


FIG. 7 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 Y(BP) = 70.000

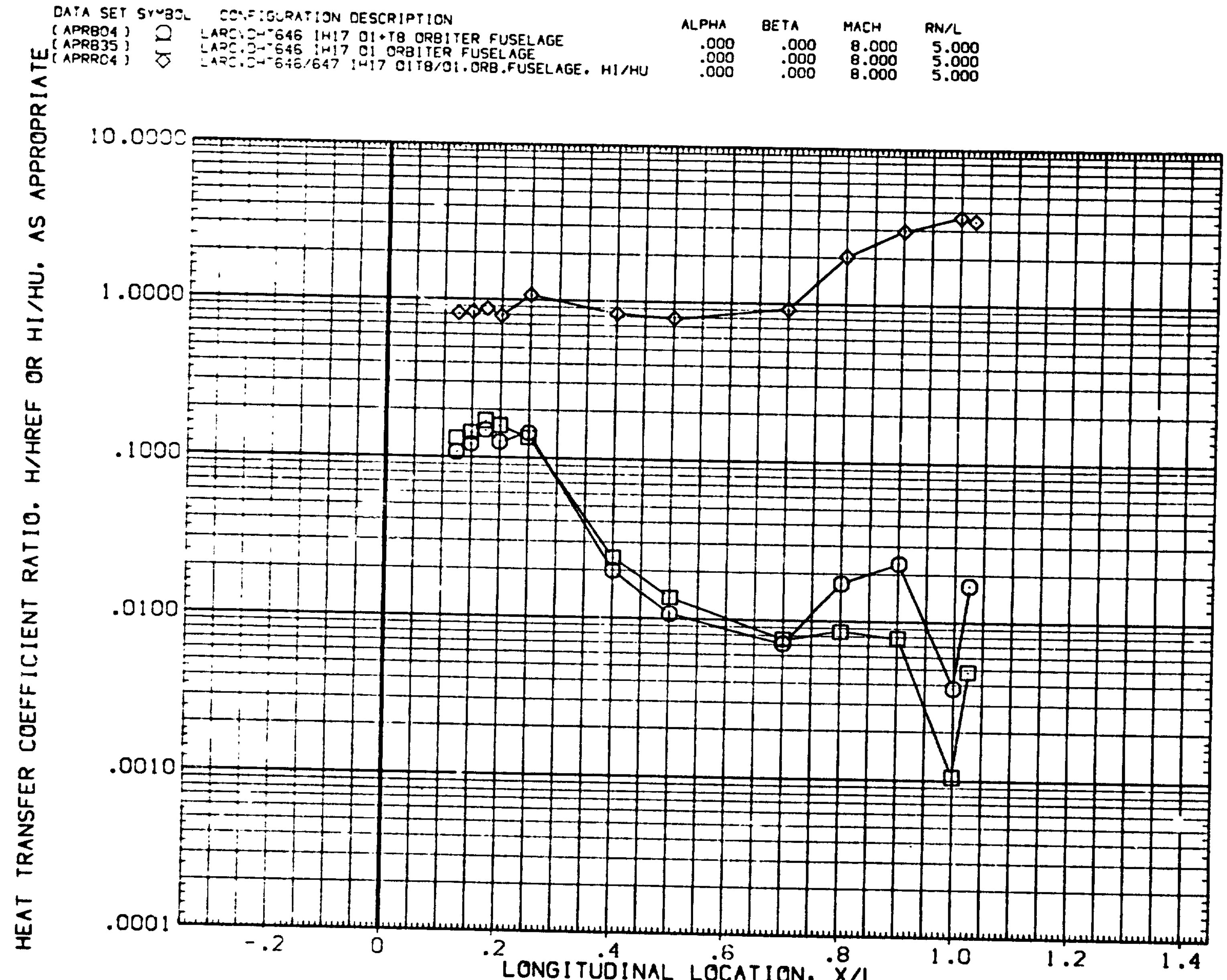


FIG. 7 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 Y(BP) = .000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRB04)	○	LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE	.000	.000	8.000	5.000
(APRB35)	□	LARCVDHT646 IH17 O1 ORBITER FUSELAGE	.000	.000	8.000	5.000
(APRR04)	◇	LARCVDHT646/647 IH17 O1T8/O1.ORB.FUSELAGE. HI/HU	.000	.000	8.000	5.000

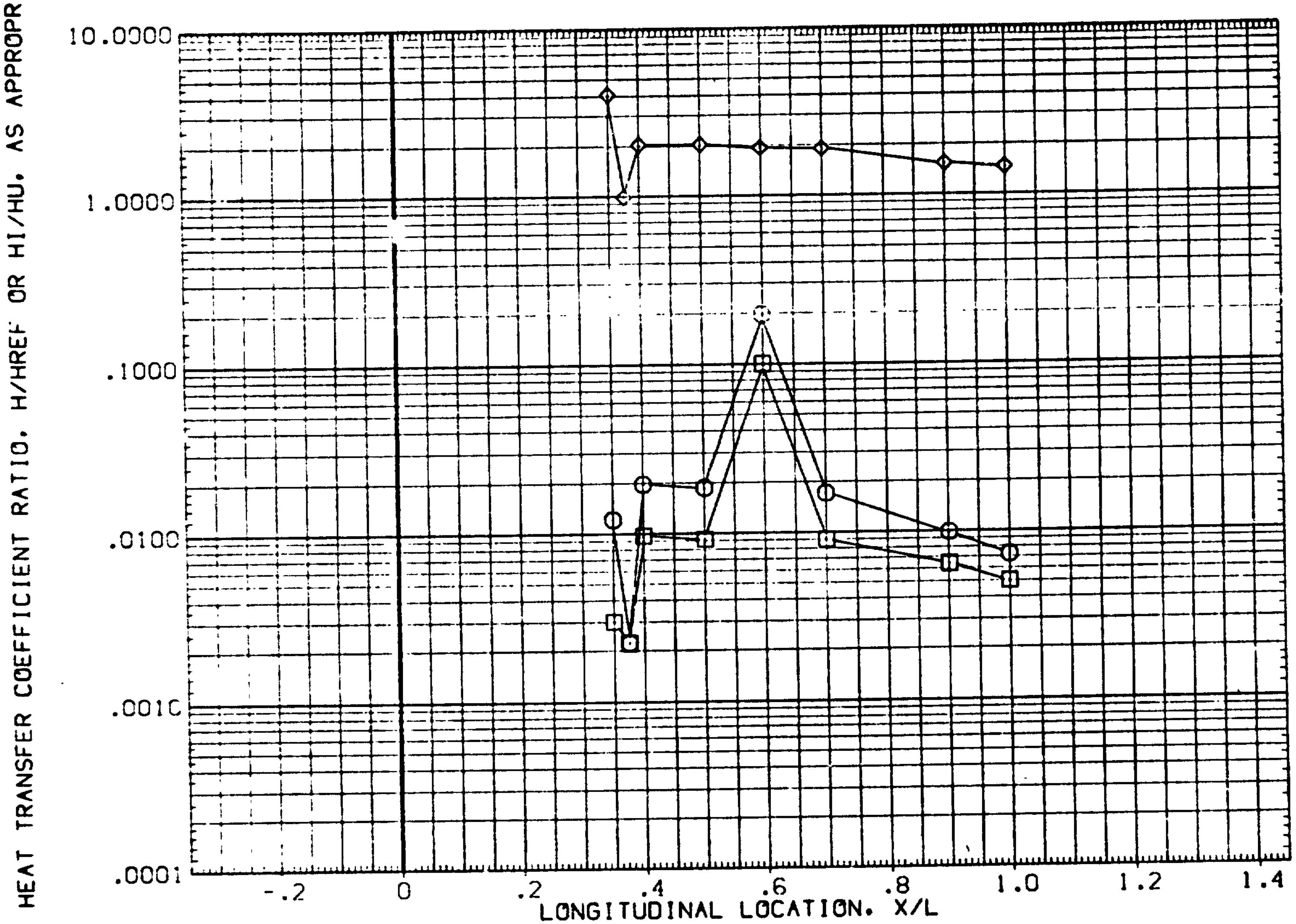


FIG. 7 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 Y(BP) = 70.000

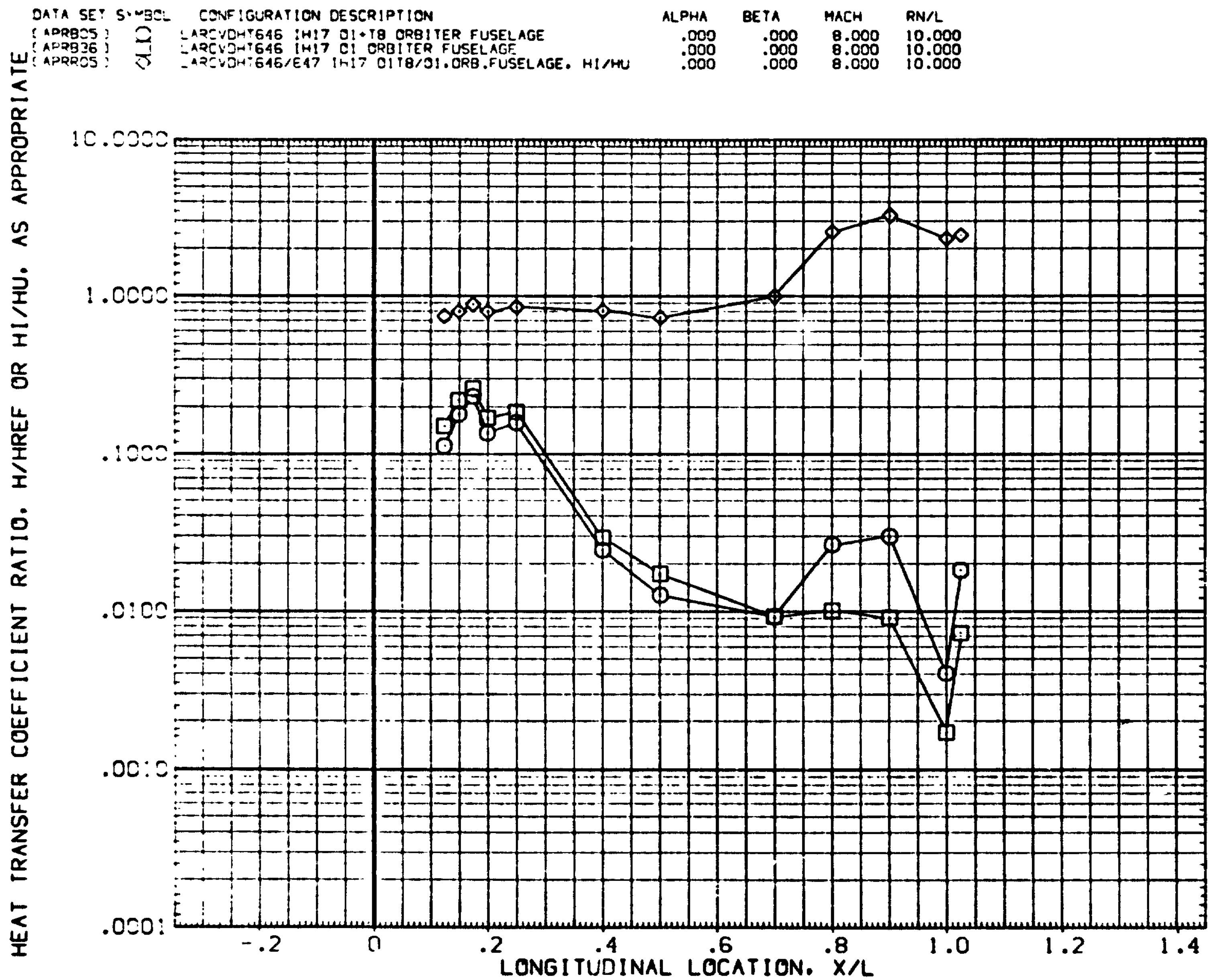


FIG. 8 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 Y(BP) = .000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRBC5)	○	LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE	.000	.000	8.000	10.000
(APRB36)	□	LARCVDHT646 IH17 O1 ORBITER FUSELAGE	.000	.000	8.000	10.000
(APRR05)	◇	LARCVDHT646/647 IH17 O1T8/O1.ORB.FUSELAGE. HI/HU	.000	.000	8.000	10.000

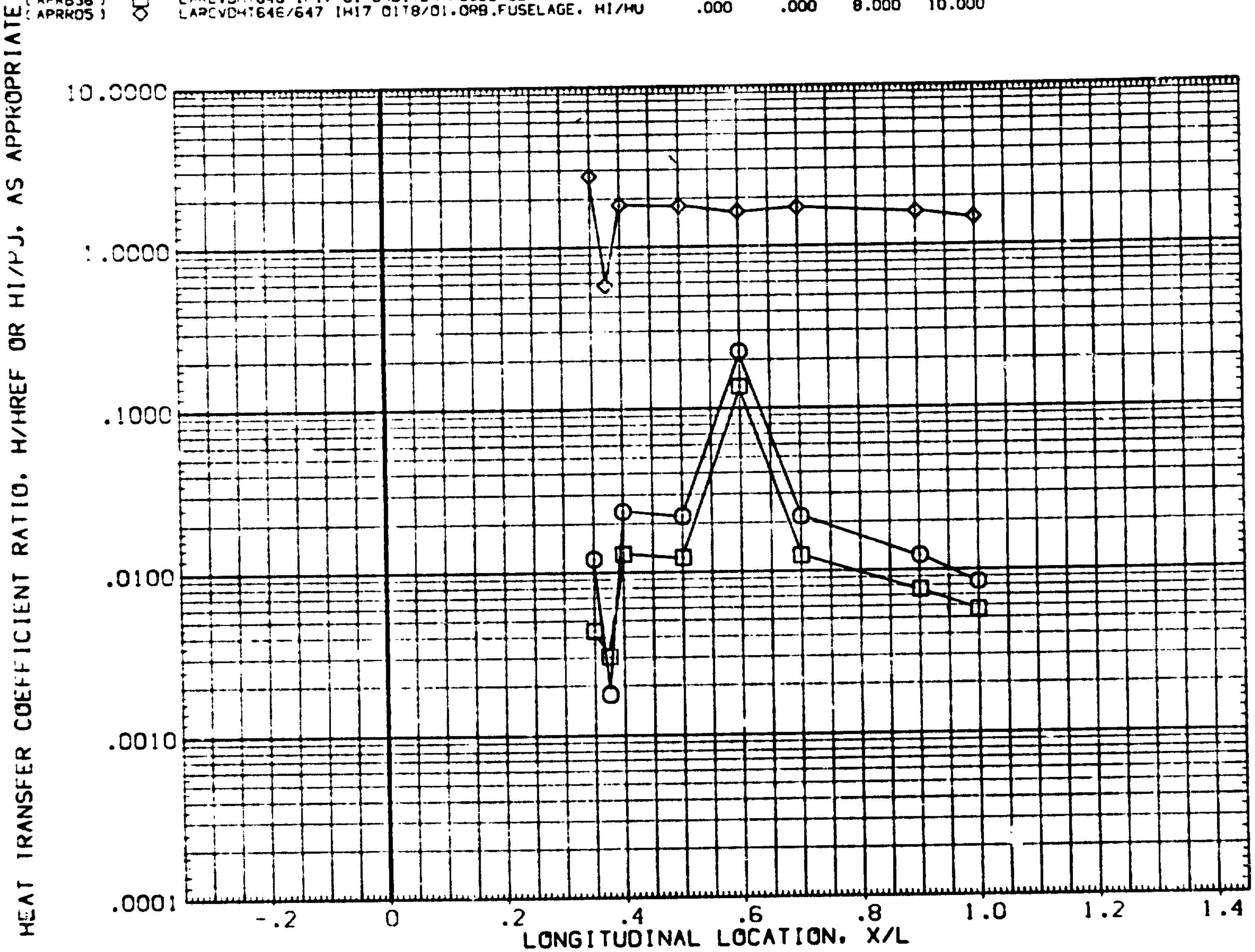


FIG. 8 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 Y(BP) = 70.000

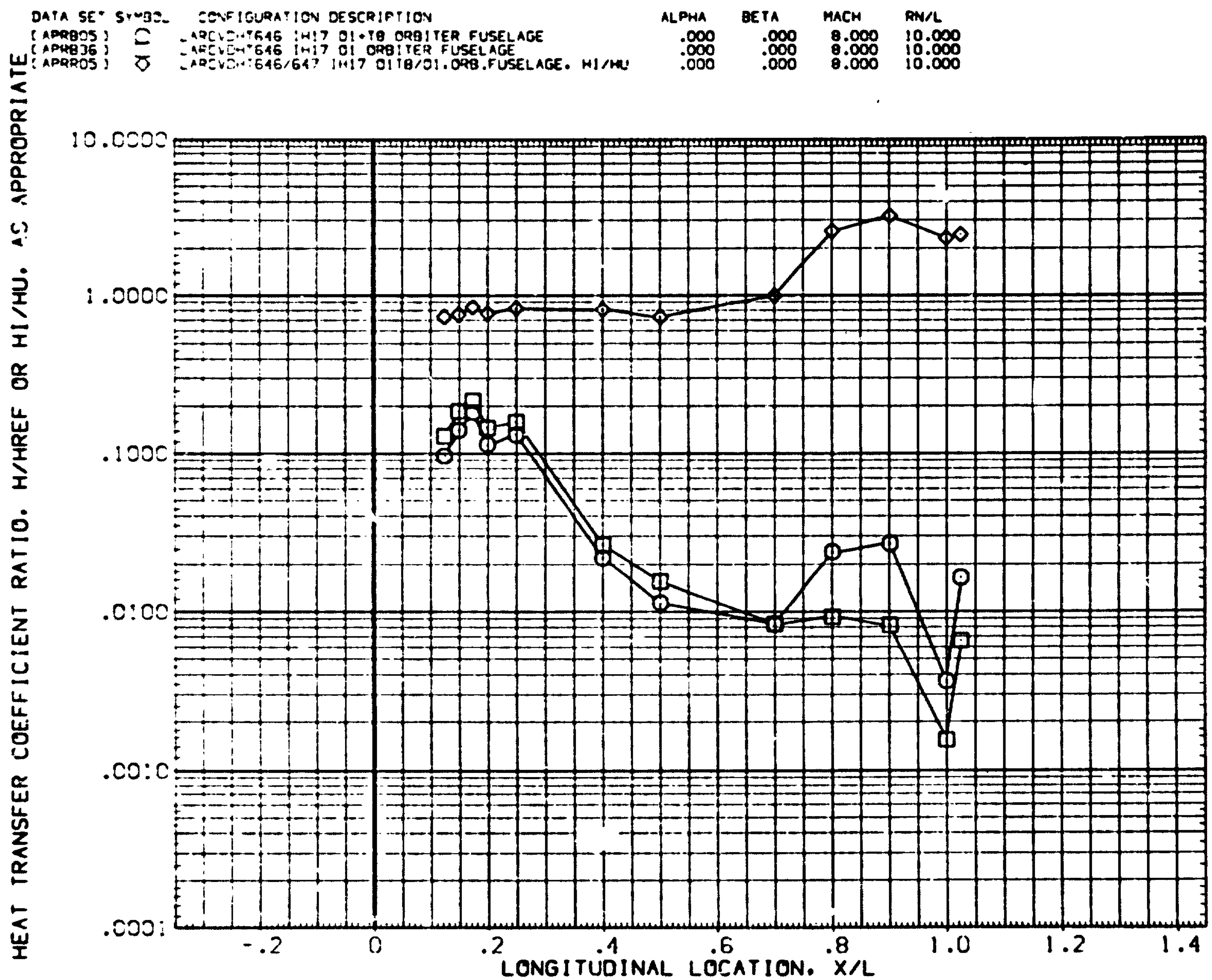


FIG. 8 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 Y(BP) = .000

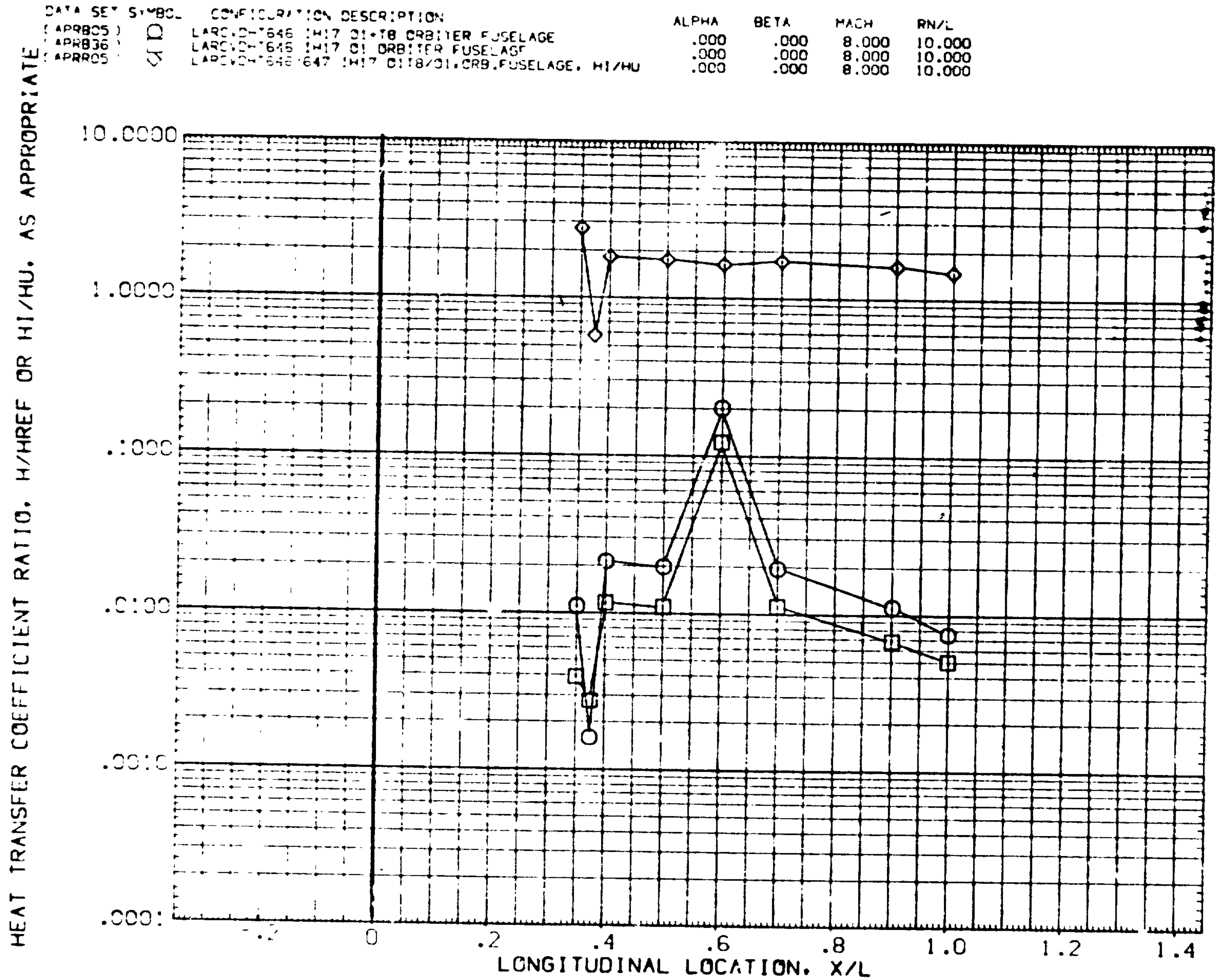


FIG. 8 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 Y(BP) = 70.000

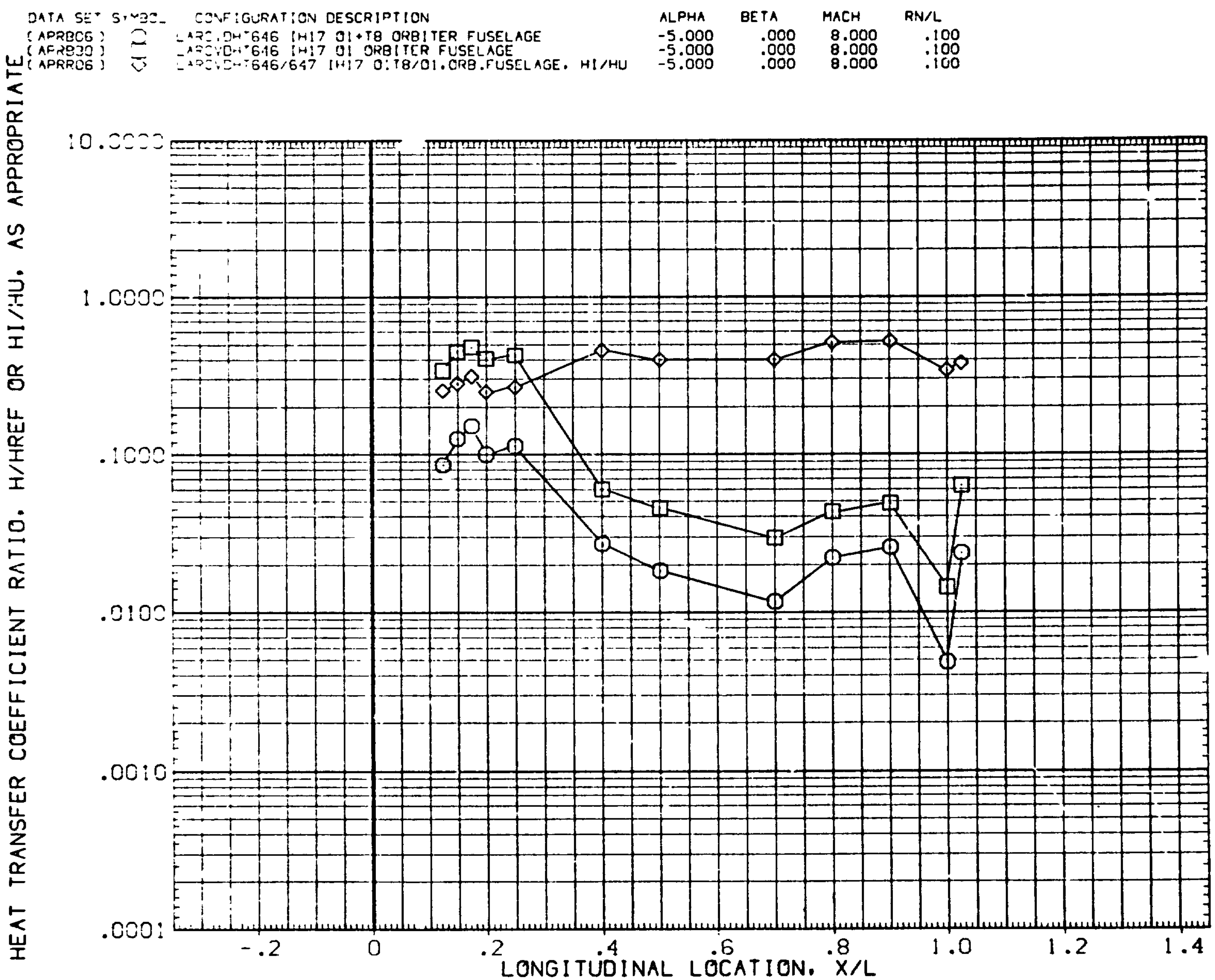


FIG. 9 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .850 Y(BP) = .000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRB06)	○	LARCVDHT646 (H17 O1+T8 ORBITER FUSELAGE	-5.000	.000	9.000	.100
(APRB30)	□	LARCVDHT646 (H17 O1 ORBITER FUSELAGE	-5.000	.000	8.000	.100
(APRR06)	◇	LARCVDHT646/647 (H17 O1T8/O1.ORB.FUSELAGE, HI/HU	-5.000	.000	8.000	.100

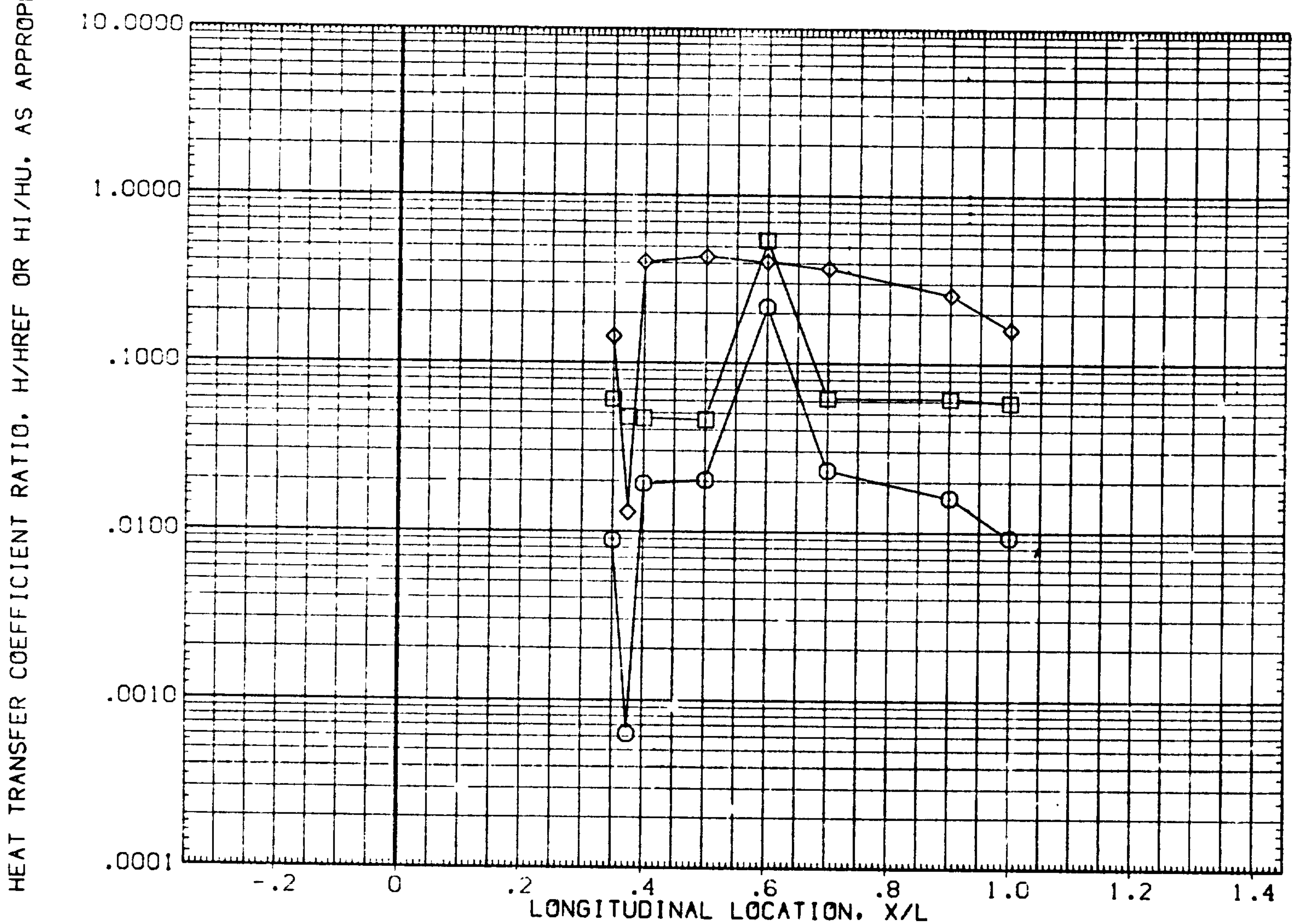


FIG. 9 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .850 Y(BP) = 70.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRB06)	○	LARCVOHT646 (H17 O1+T8 ORBITER FUSELAGE	-5.000	.000	8.000	.100
(APRB30)	□	LARCVOHT646 (H17 O1 ORBITER FUSELAGE	-5.000	.000	8.000	.100
(APRR06)	◇	LARCVOHT646/647 (H17 O1T8/O1.ORB.FUSELAGE. HI/HU	-5.000	.000	8.000	.100

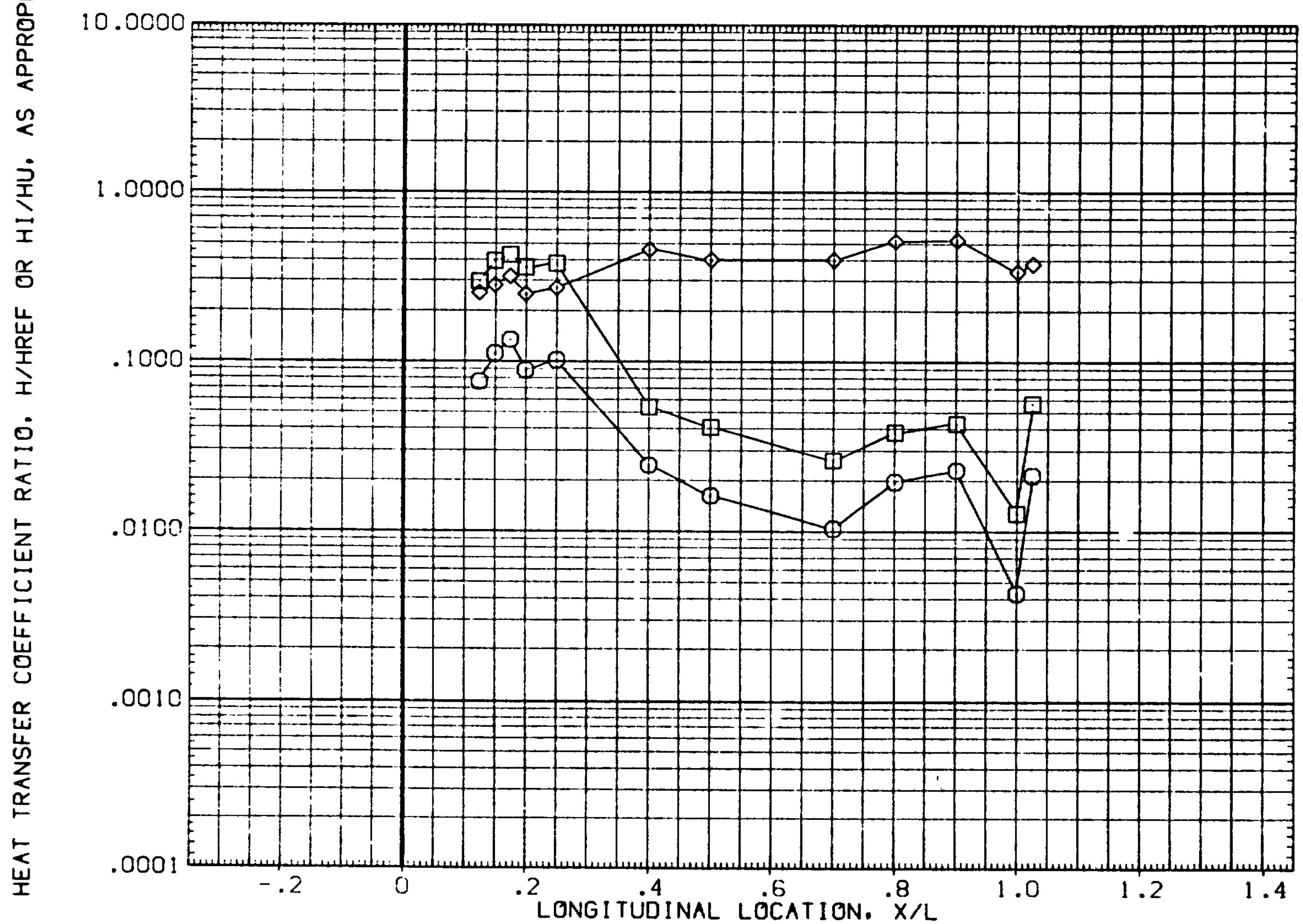


FIG. 9 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 Y(BP) = .000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRB06)	○	LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE	-5.000	.000	8.000	.100
(APRB30)	□	LARCVDHT646 IH17 O1 ORBITER FUSELAGE	-5.000	.000	8.000	.100
(APRR06)	◇	LARCVDHT646/647 IH17 O1T8/O1.ORB.FUSELAGE. HI/HU	-5.000	.000	8.000	.100

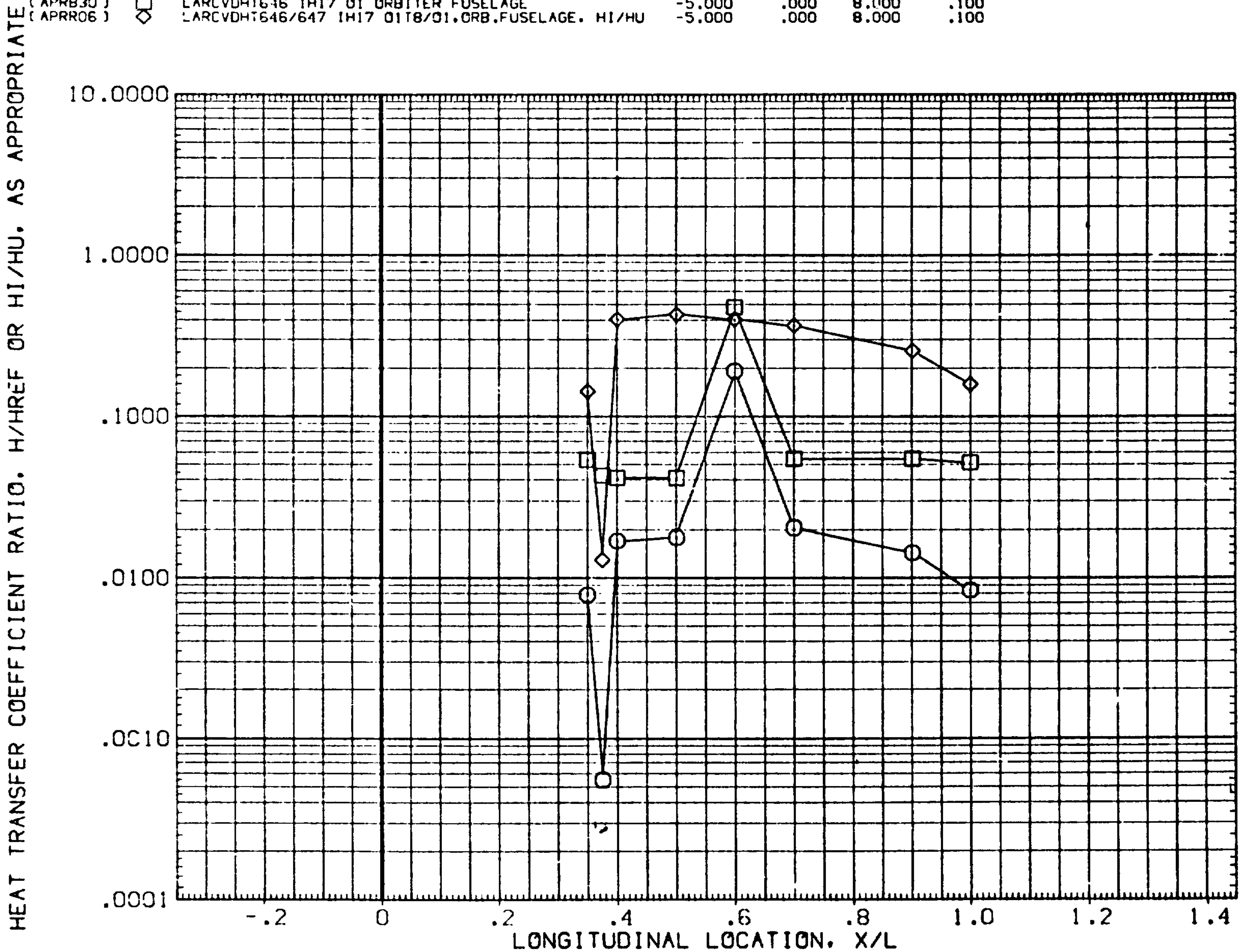


FIG. 9 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 Y(BP) = 70.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRB07)	○	LARC.OHT646 IH17 O1+T8 ORBITER FUSELAGE	-5.000	.000	8.000	5.000
(APRB31)	□	LARC.OHT646 IH17 O1 ORBITER FUSELAGE	-5.000	.000	8.000	5.000
(APRR07)	◇	LARC.OHT646/647 IH17 O1T8/O1.ORB.FUSELAGE. HI/HU	-5.000	.000	8.000	5.000

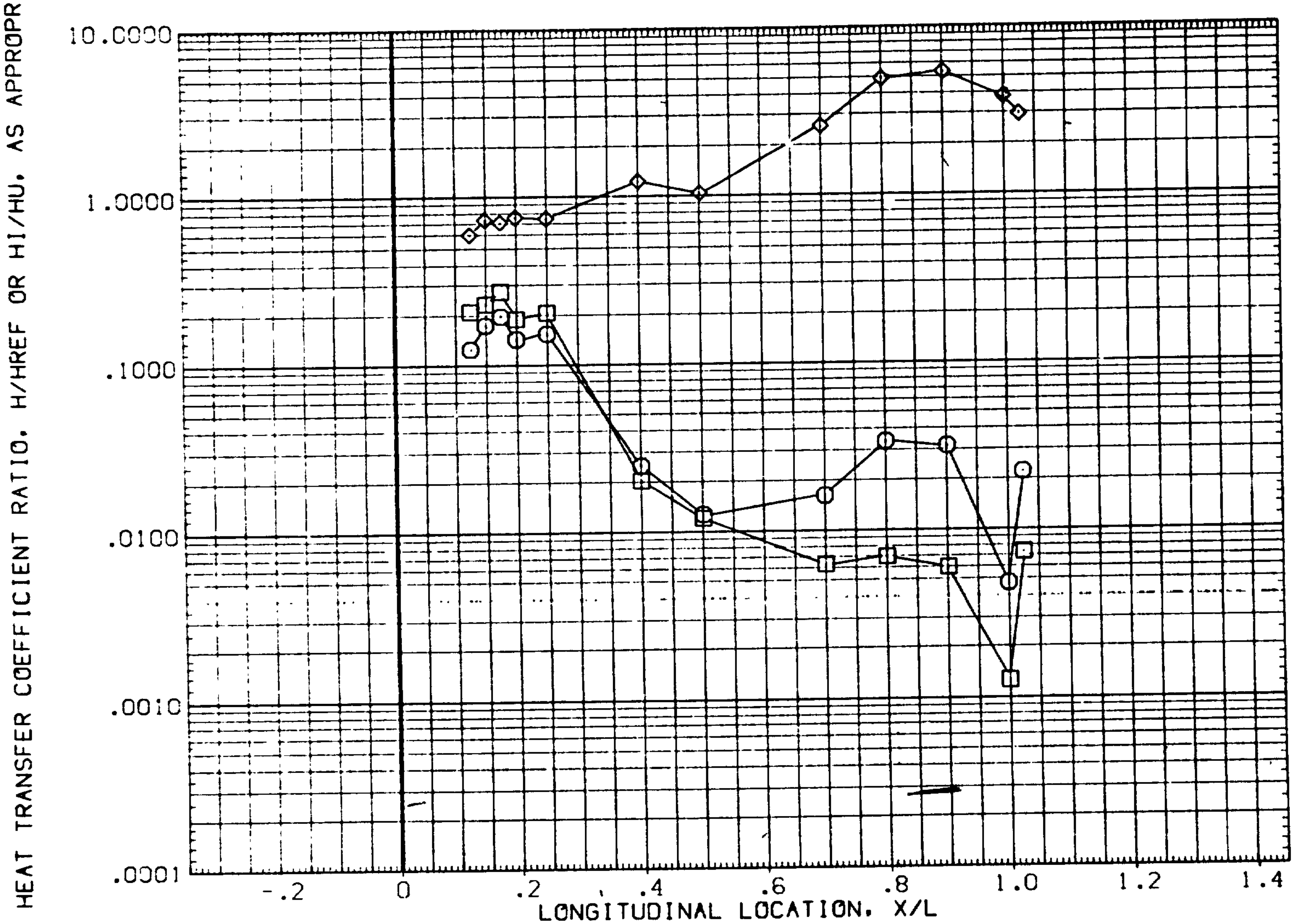


FIG. 10 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .850 Y(BP) = .000

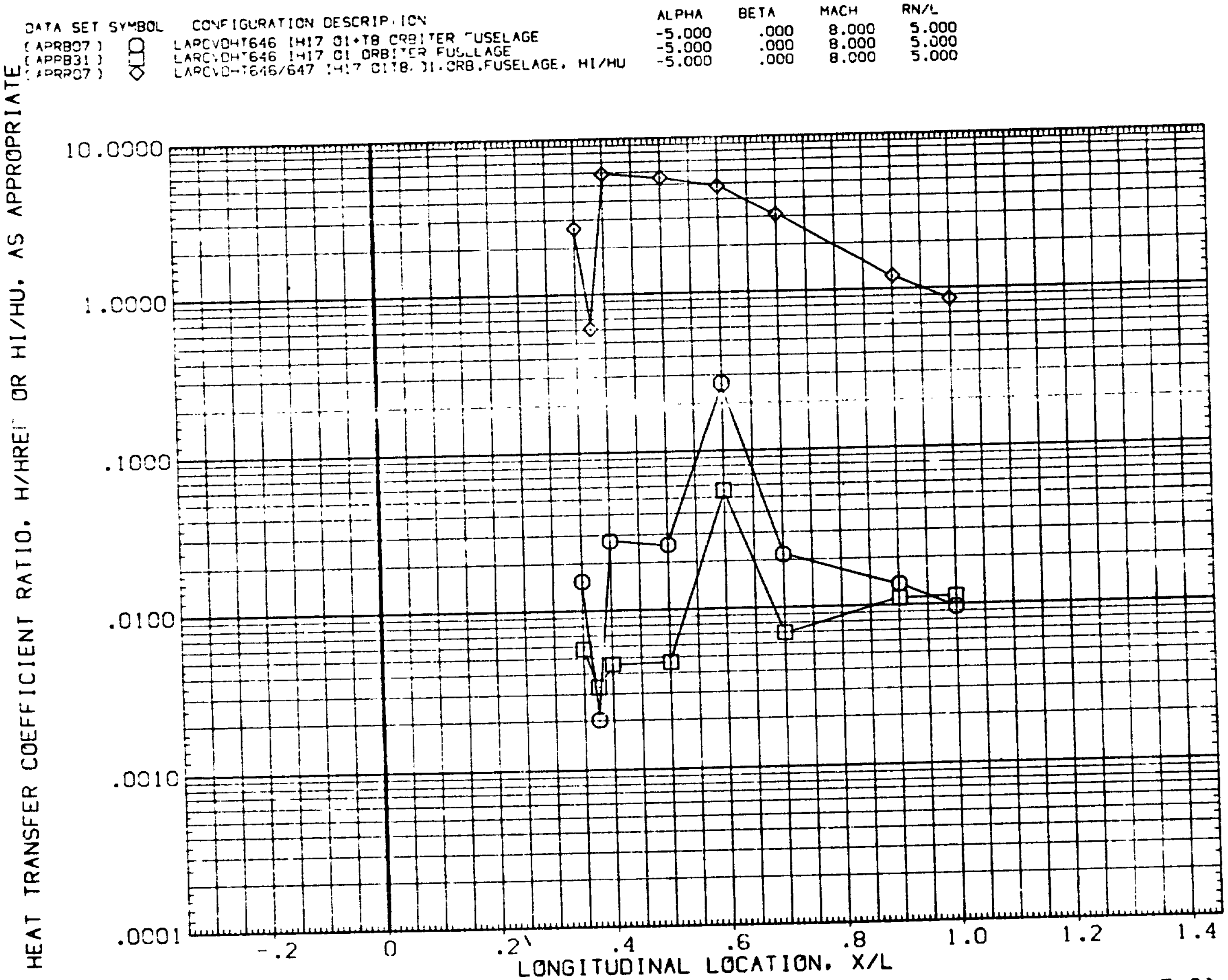


FIG. 10 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .850 Y(BP) = 70.000

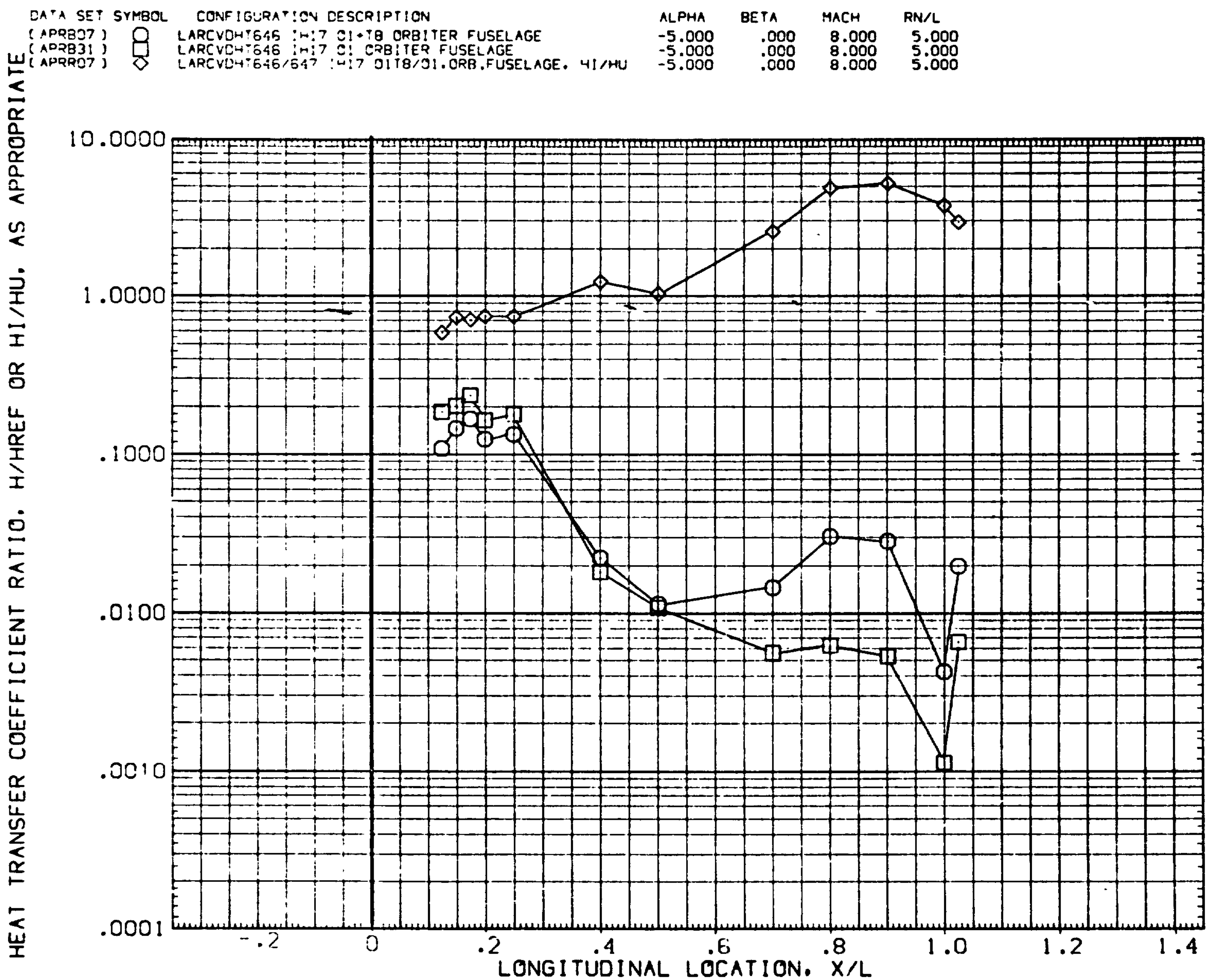


FIG. 10 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .900 Y(BP) = .000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRB07)	○	LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE	-5.000	.000	8.000	5.000
(APRB31)	□	LARCVDHT646 IH17 O1 ORBITER FUSELAGE	-5.000	.000	8.000	5.000
(APRR07)	◇	LARCVDHT646/647 IH17 O1T8/O1.ORB.FUSELAGE, HI/HU	-5.000	.000	8.000	5.000

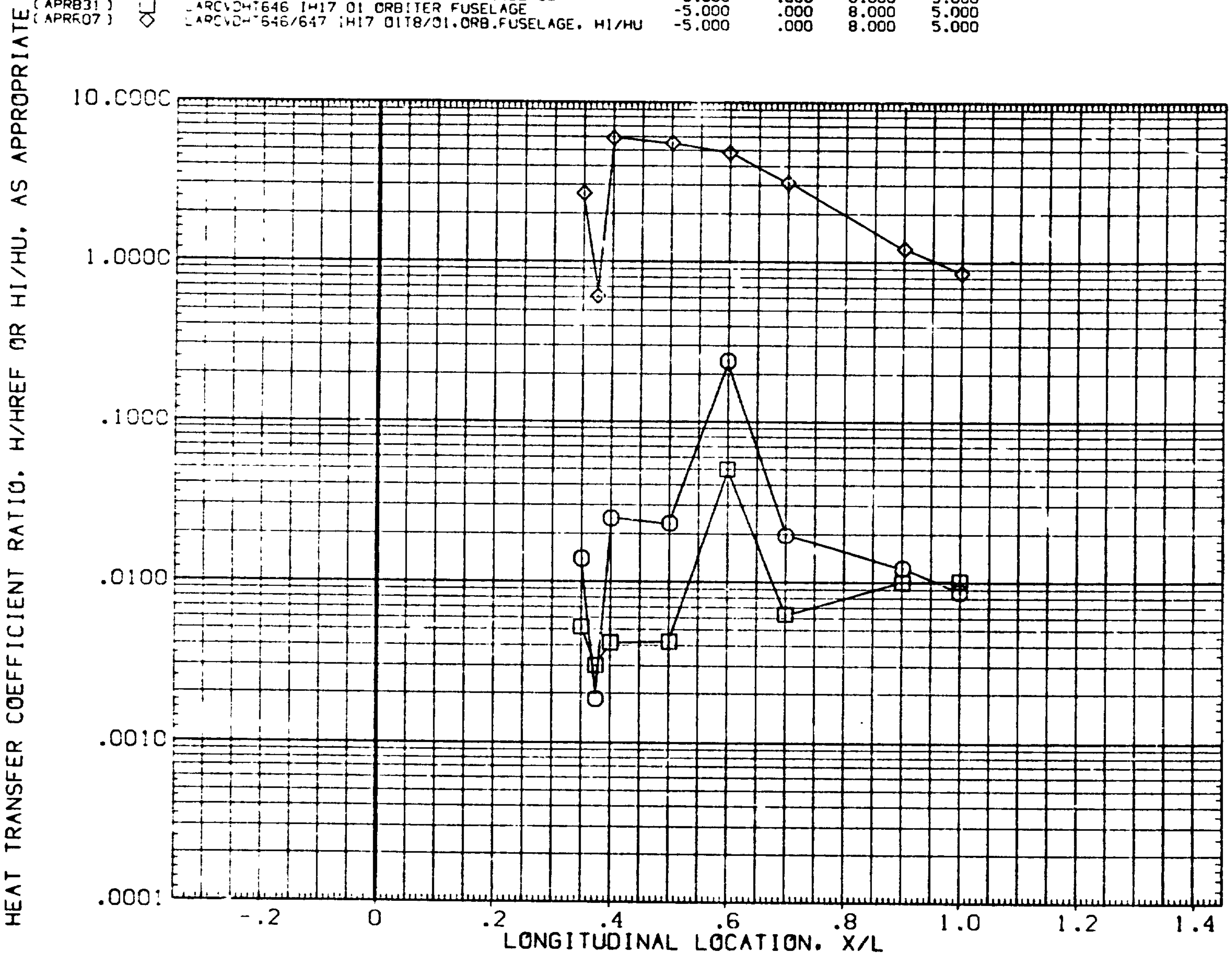


FIG. 10 EFFECT OF E.T. ON ORB. FUS. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .900 Y(BP) = 70.000

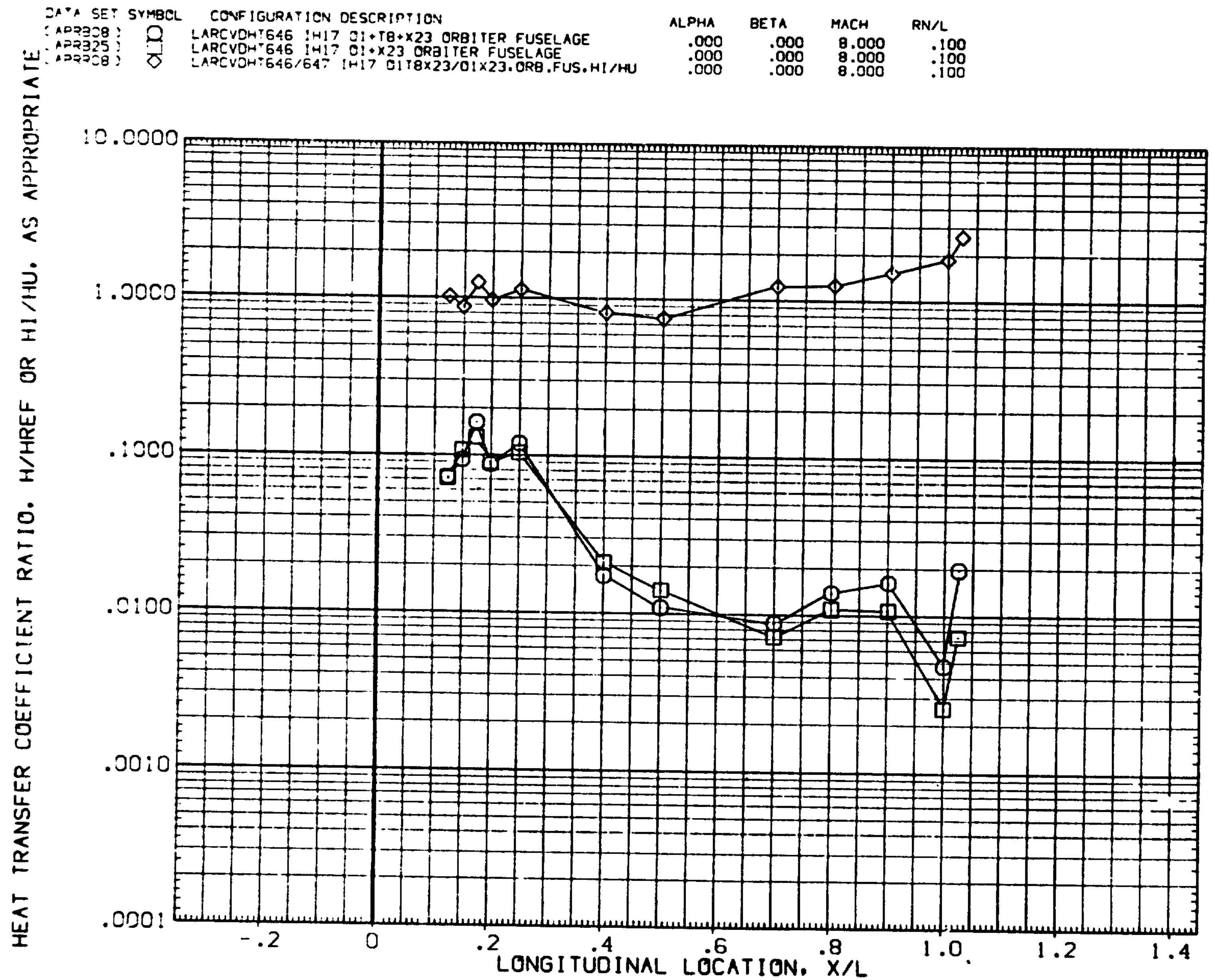


FIG. 11 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 Y(BP) = .000

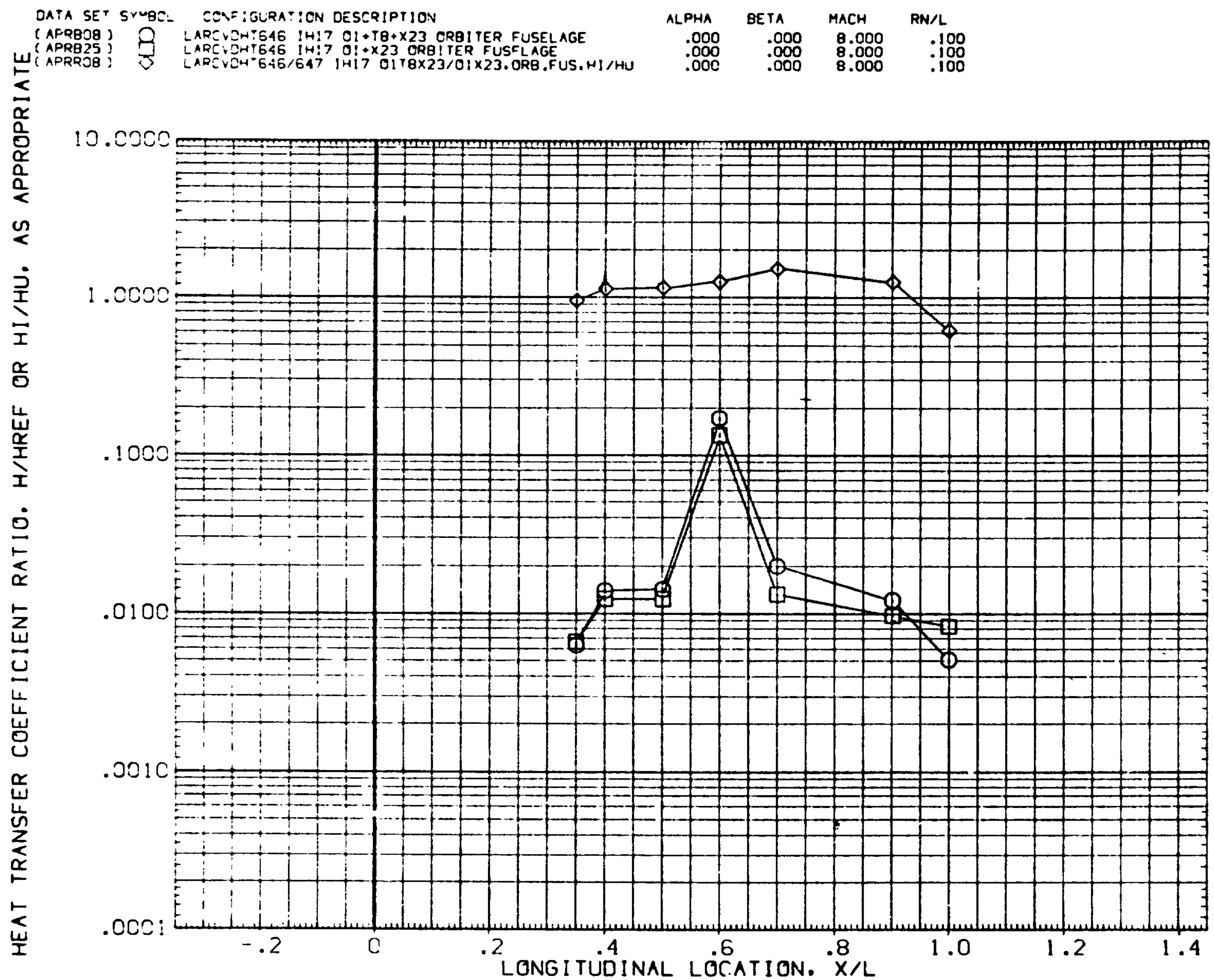


FIG. 11 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 Y(BP) = 70.000 PAGE 30

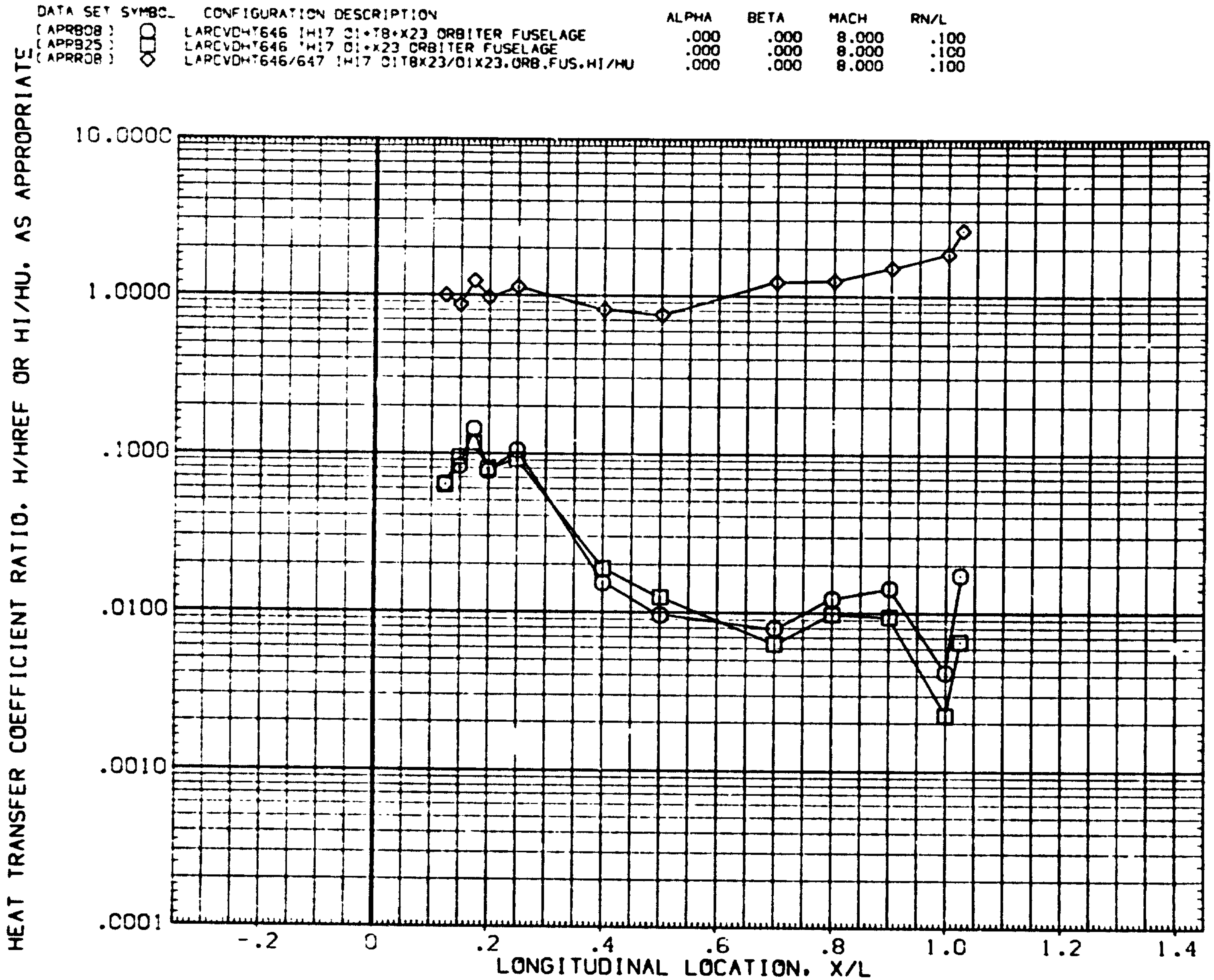


FIG. 11 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 Y(BP) = .000

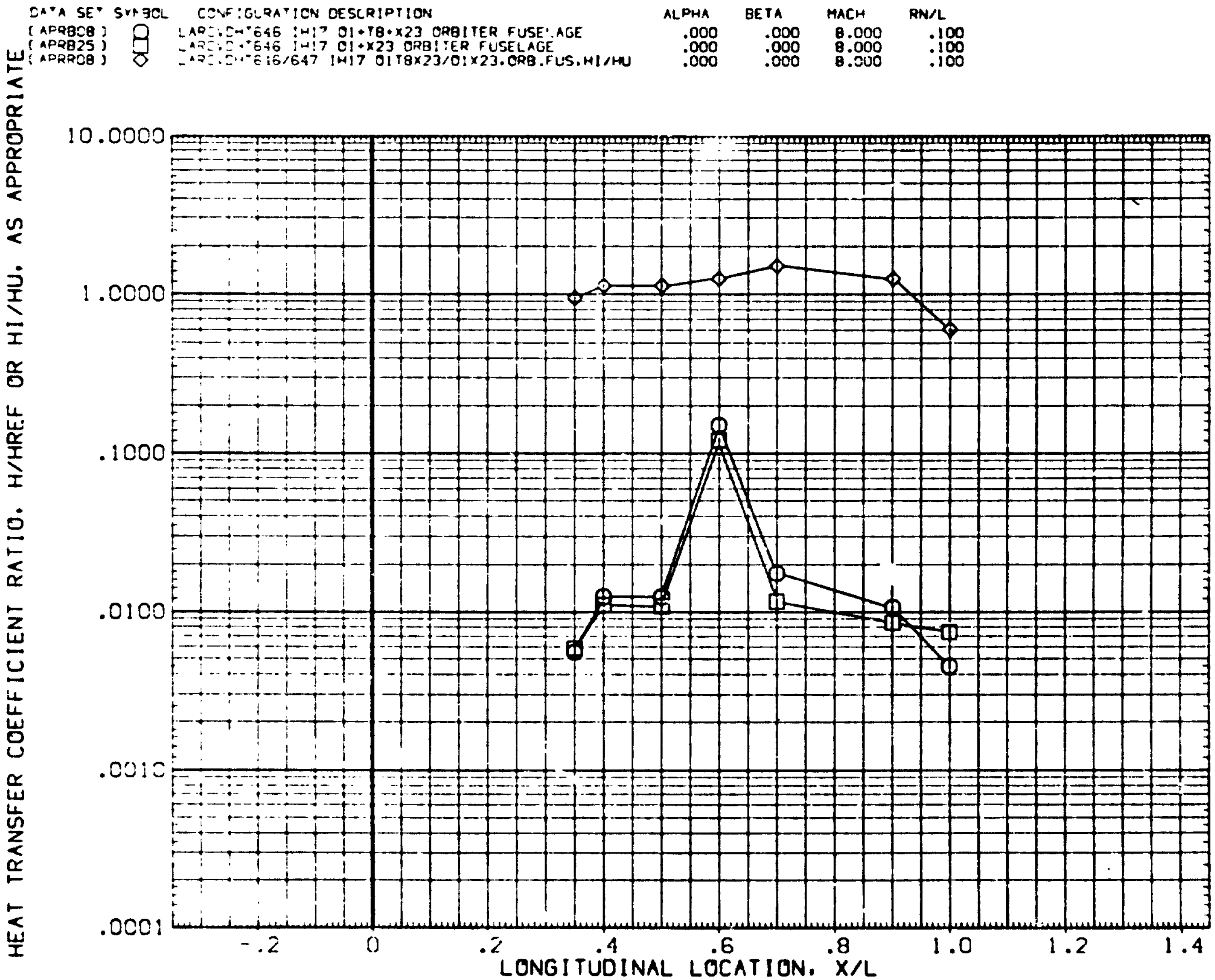


FIG. 11 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 Y(BP) = 70.000

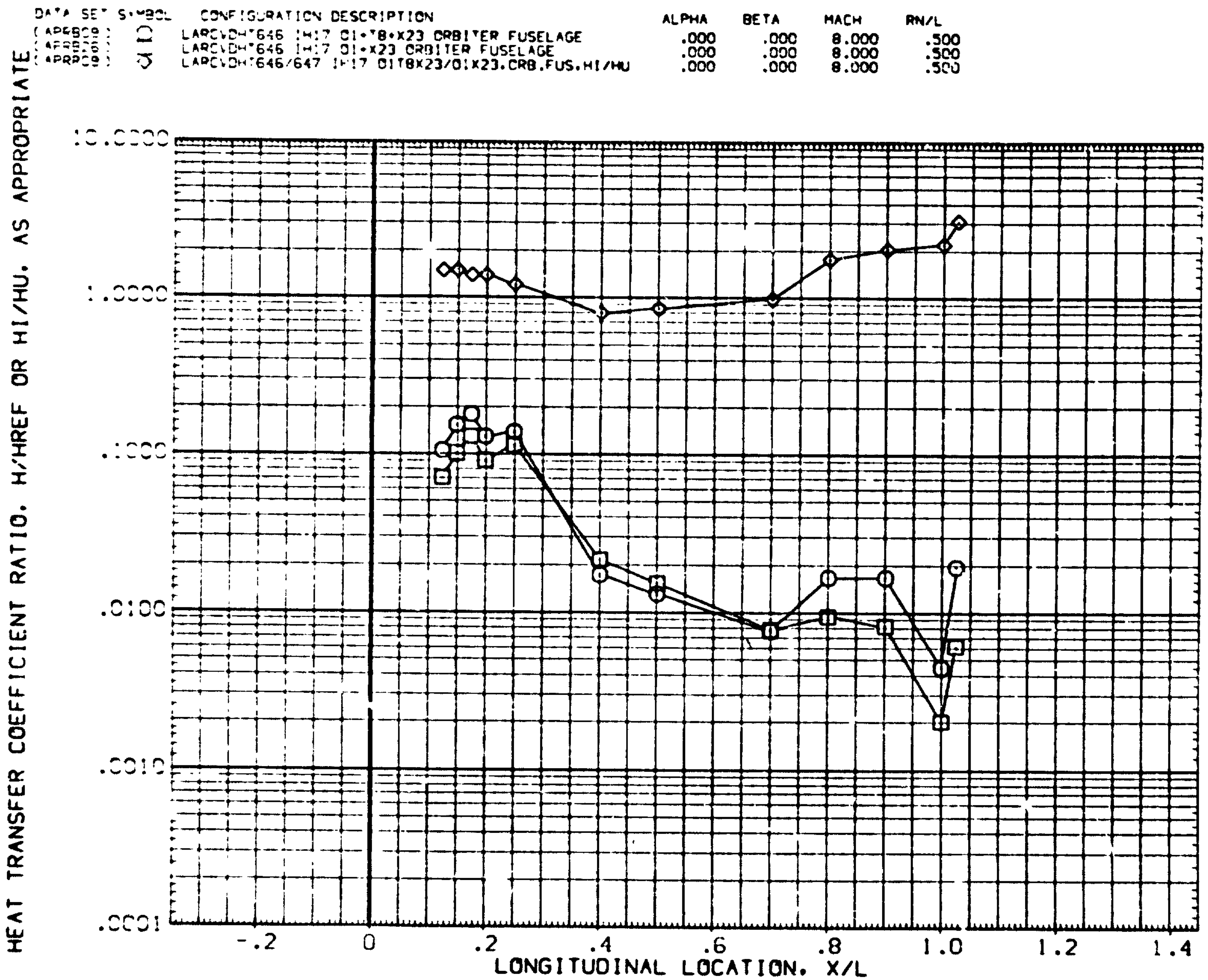


FIG. 12 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 Y(BP) = .000

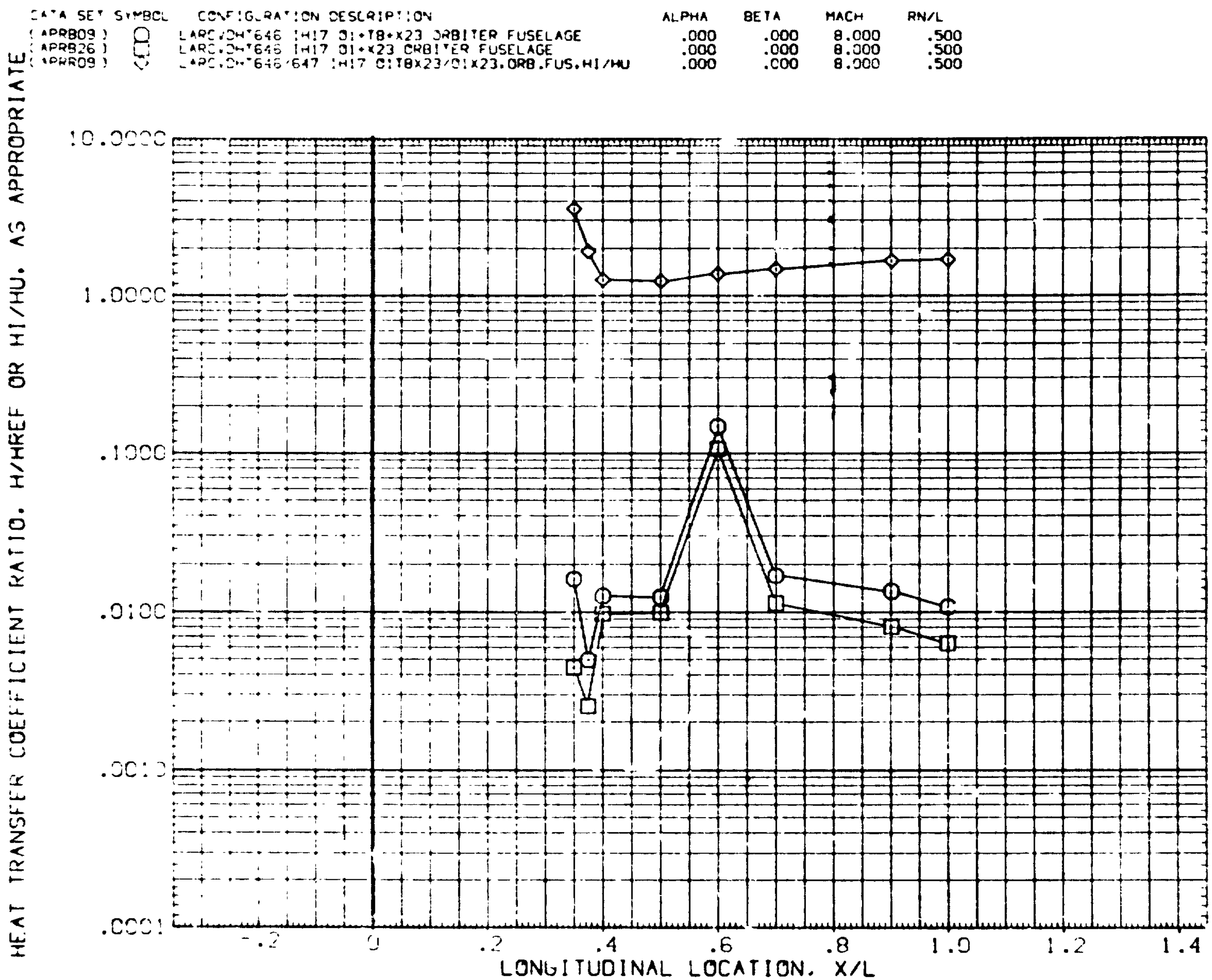


FIG. 12 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 Y(BP) = 70.000 PAGE 34

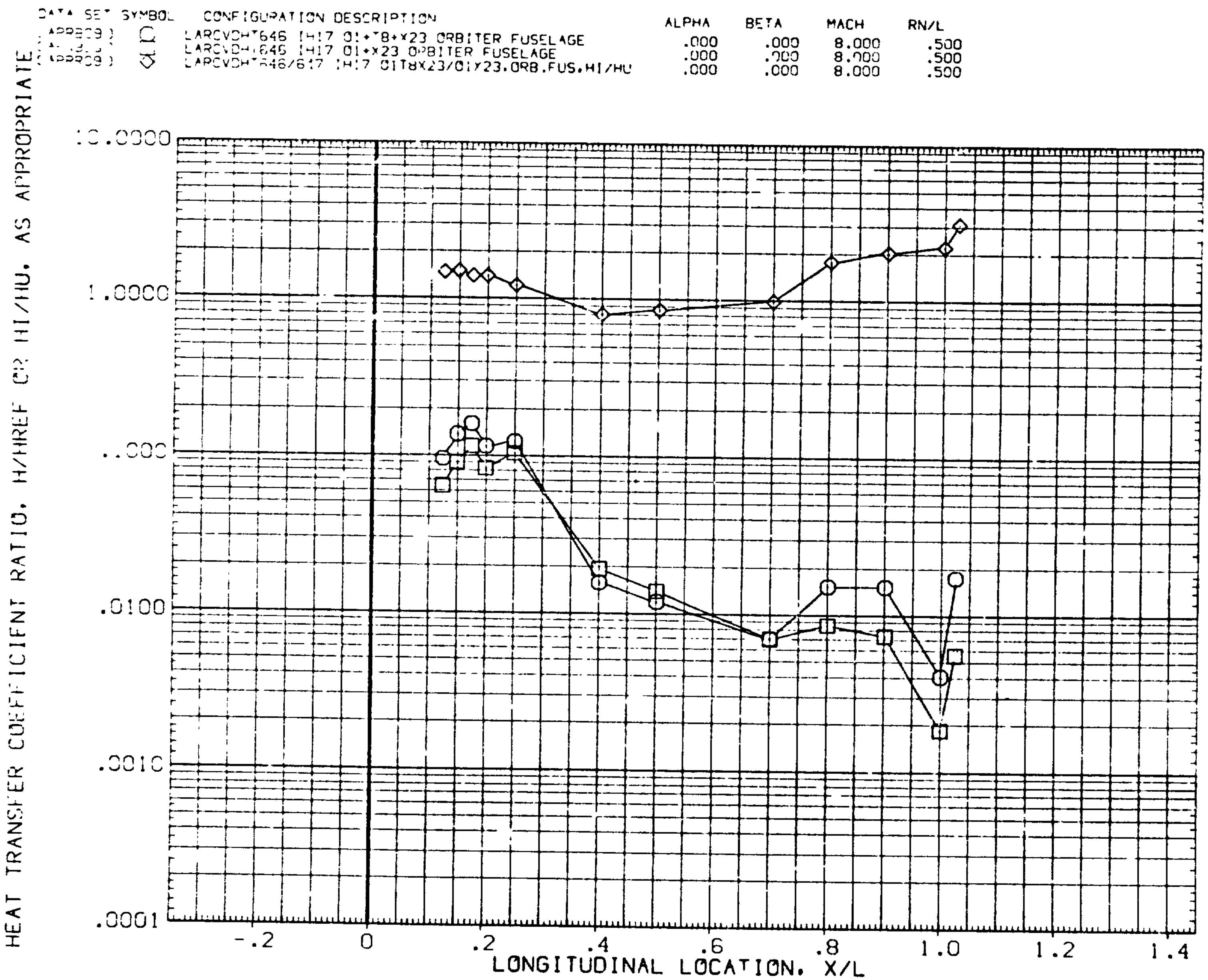


FIG. 12 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 Y(BP) = .000

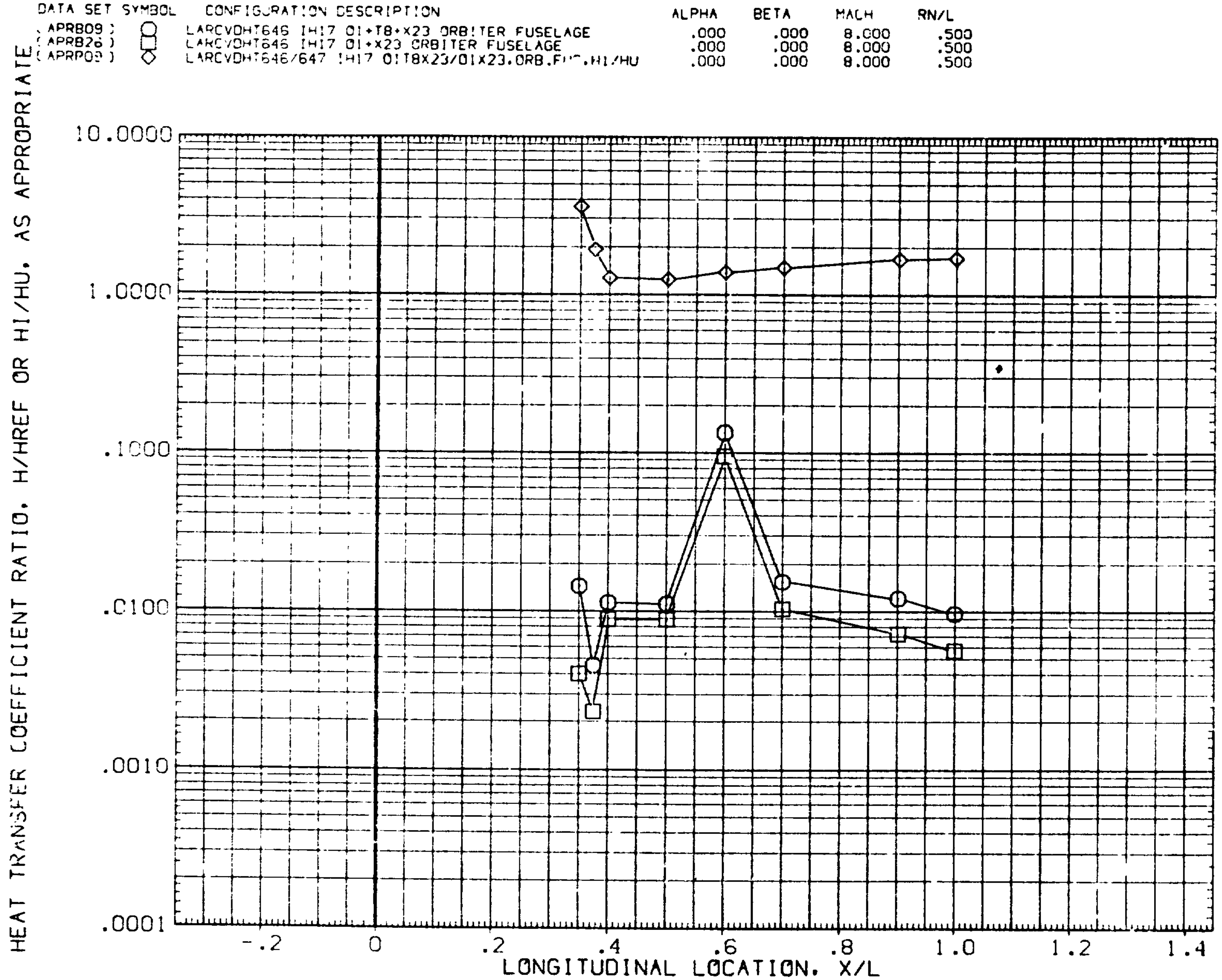


FIG. 12 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HI= .900 Y(BP) = 70.000 PAGE 36

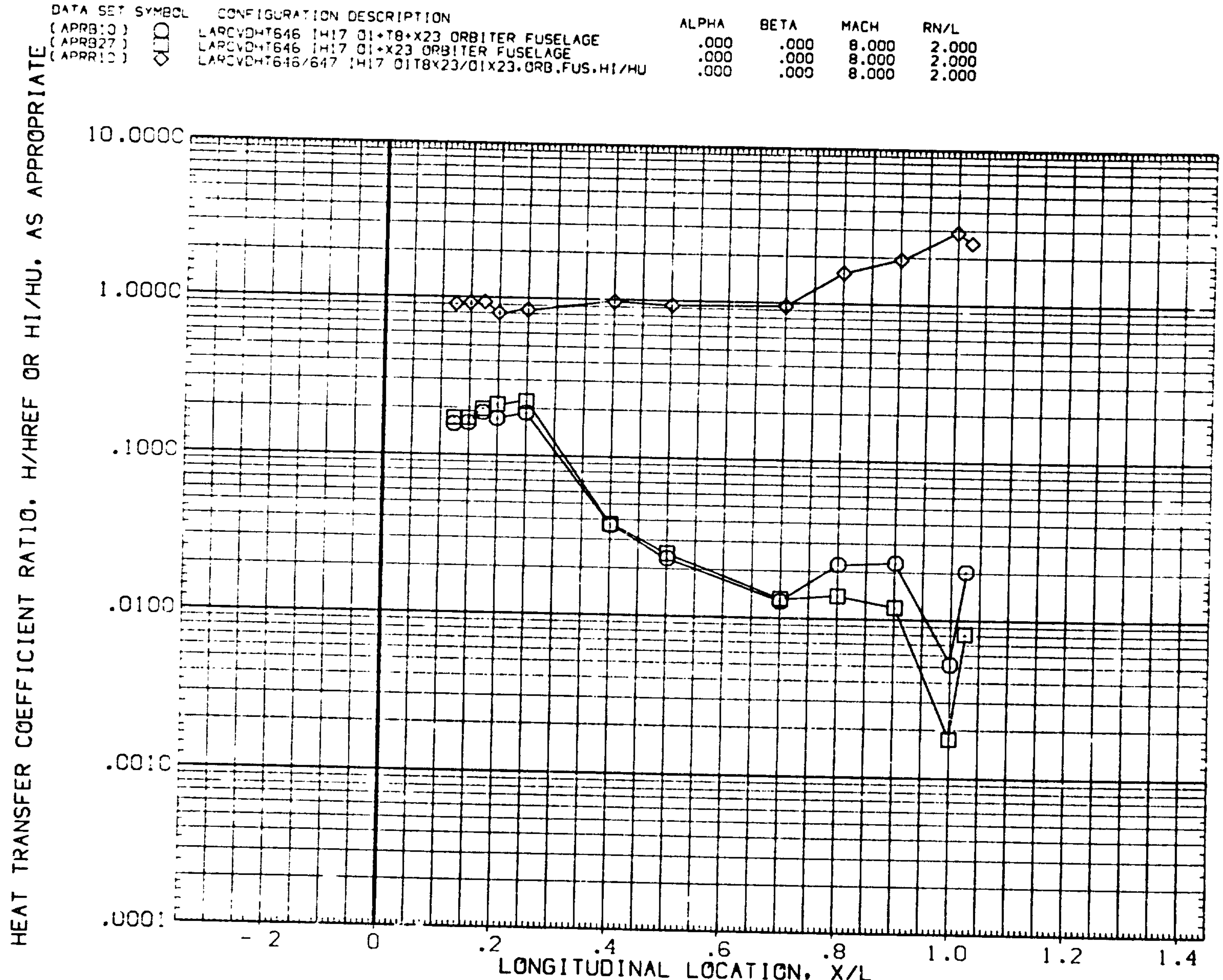


FIG. 13 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 Y(BP) = .000

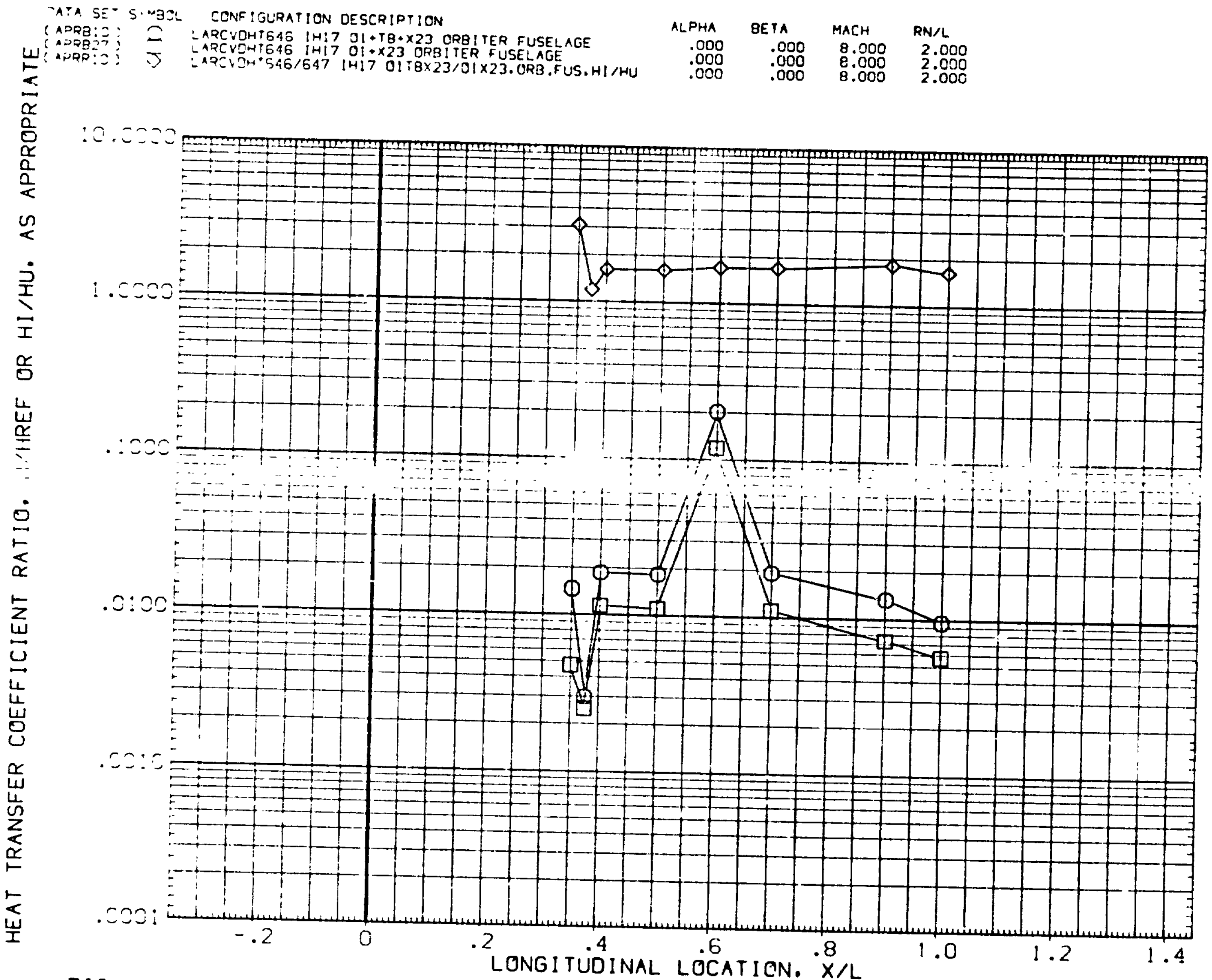


FIG. 13 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 Y(BP) = 70.000

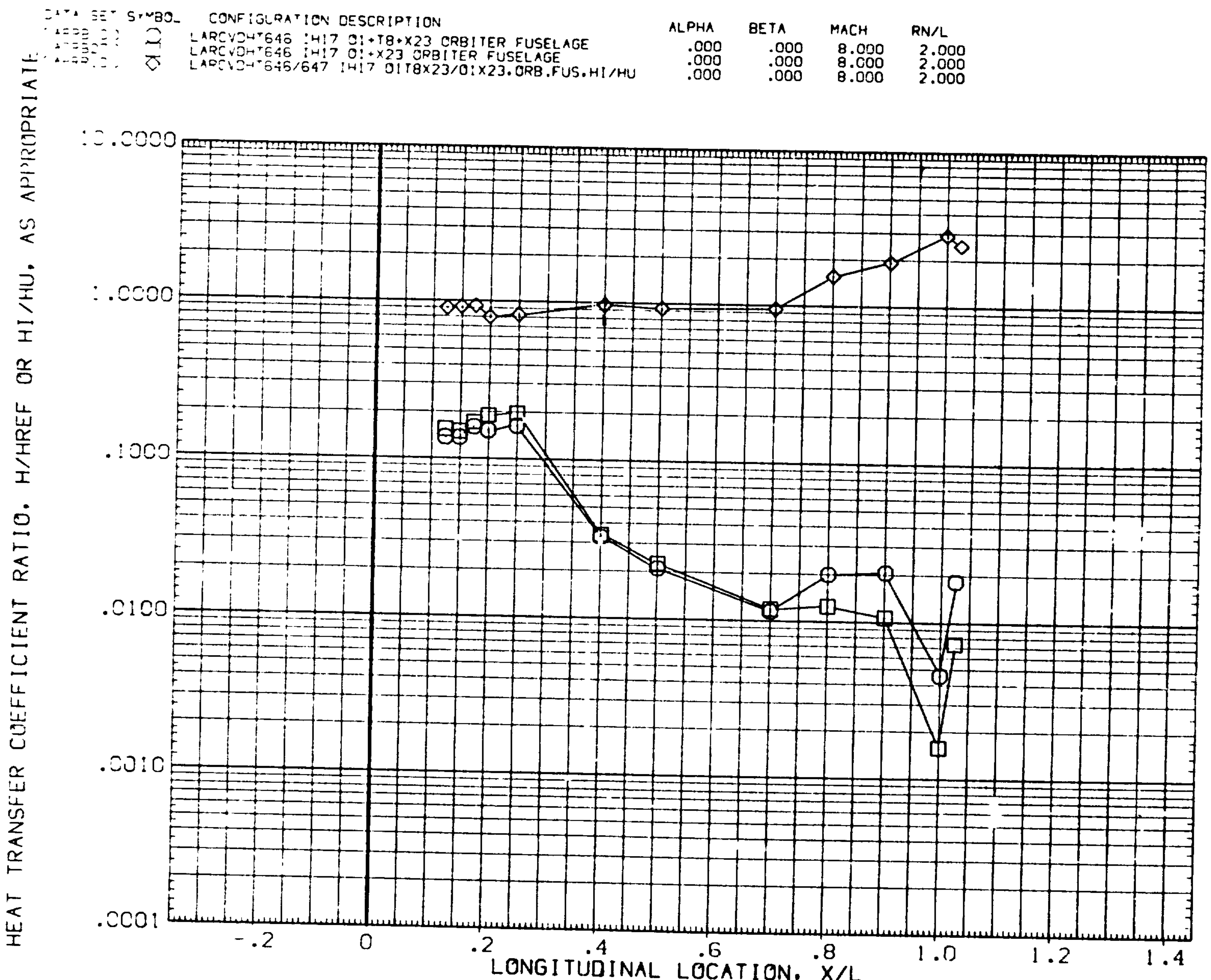


FIG. 13 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 Y(BP) = .000

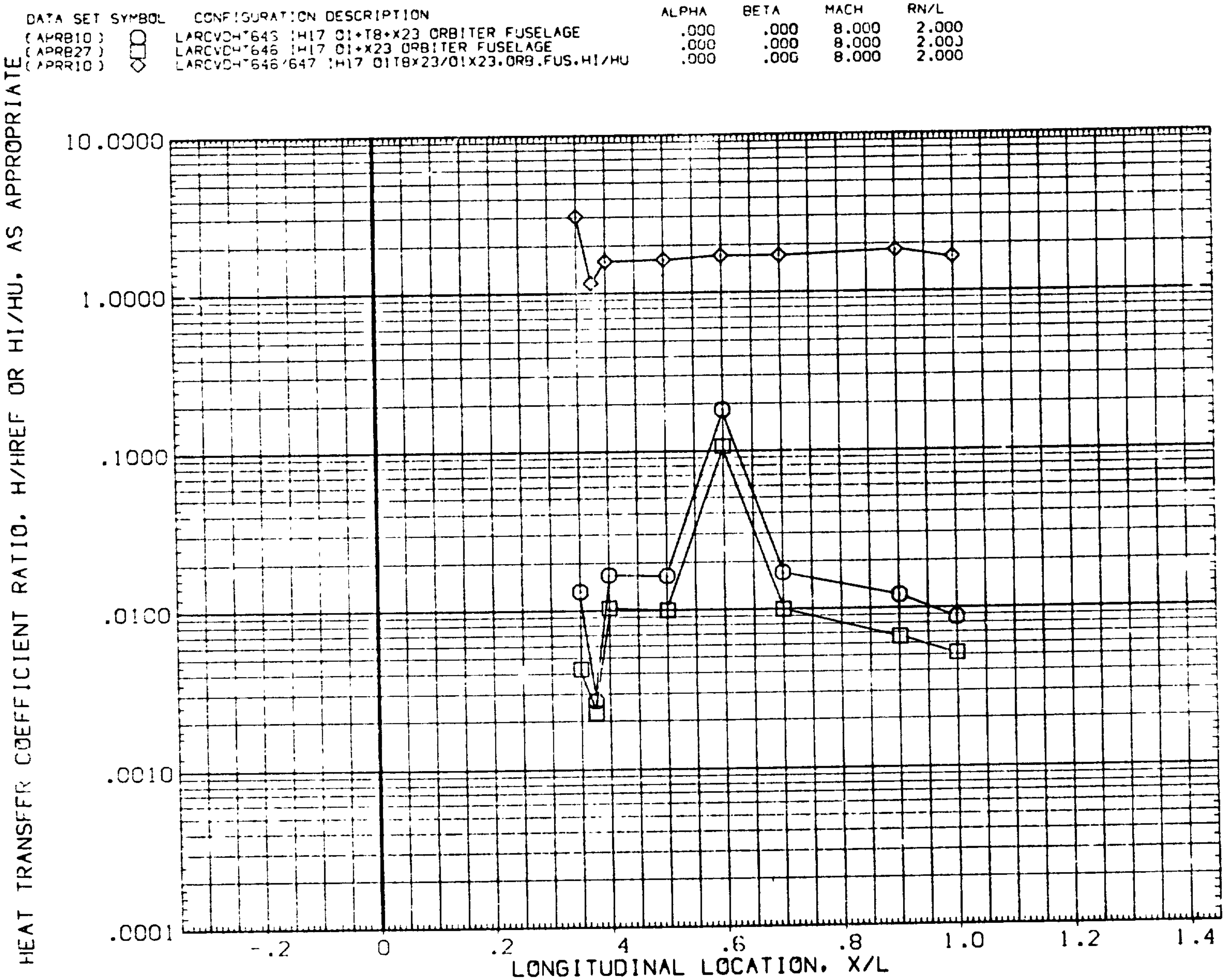


FIG. 13 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 Y(BP) = 70.000

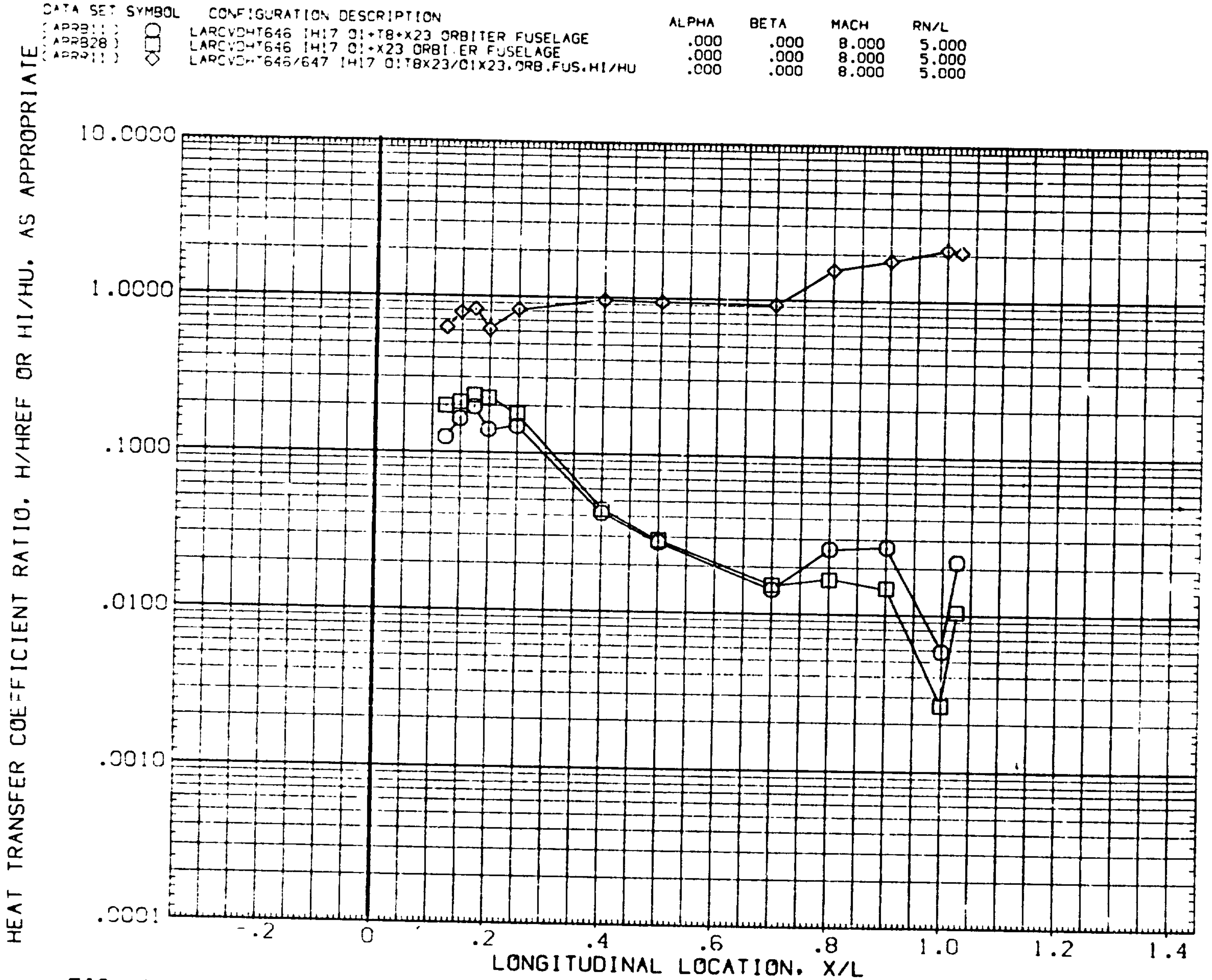


FIG. 14 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 Y(BP) = .000

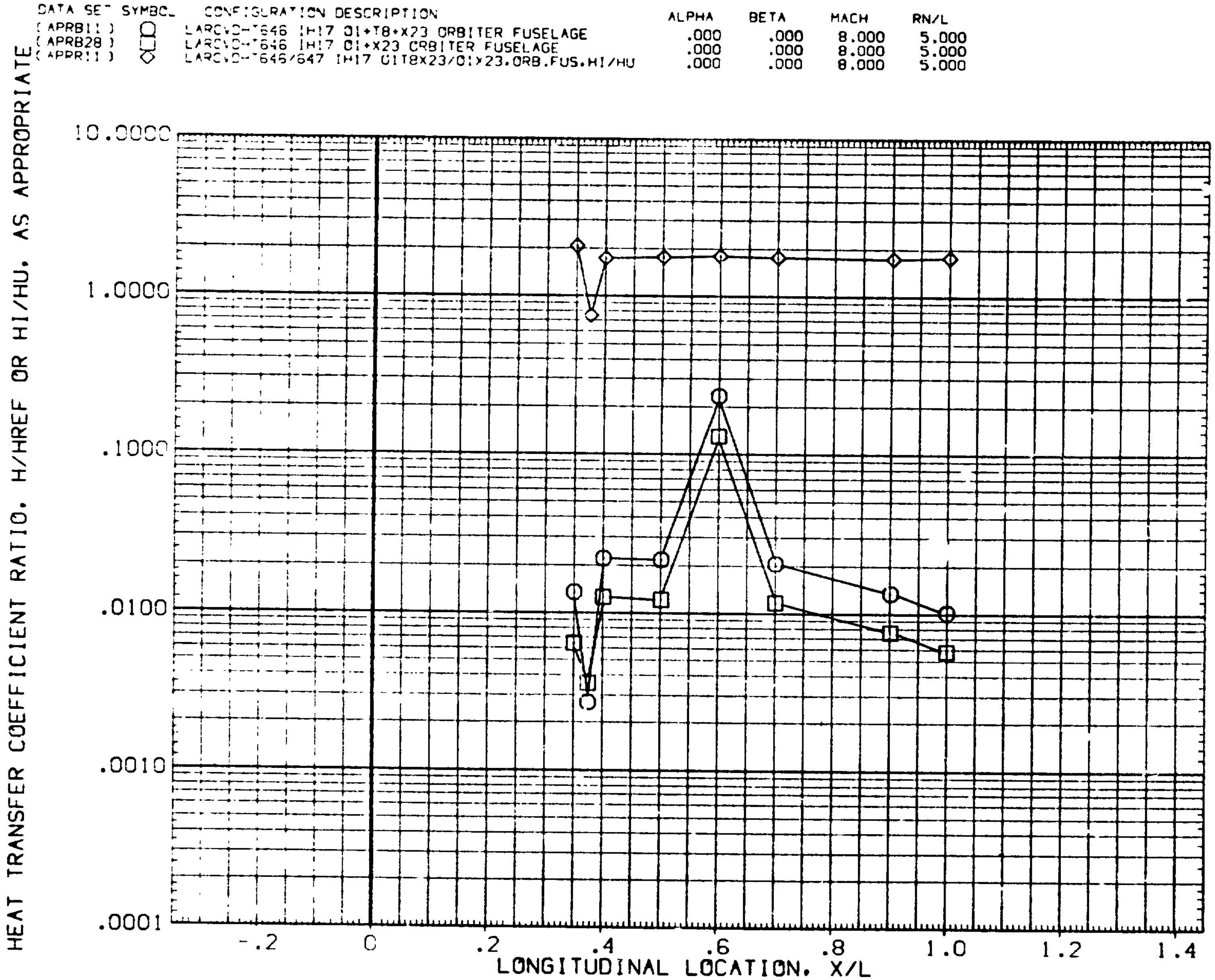


FIG. 14 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 Y(BF) = 70.000

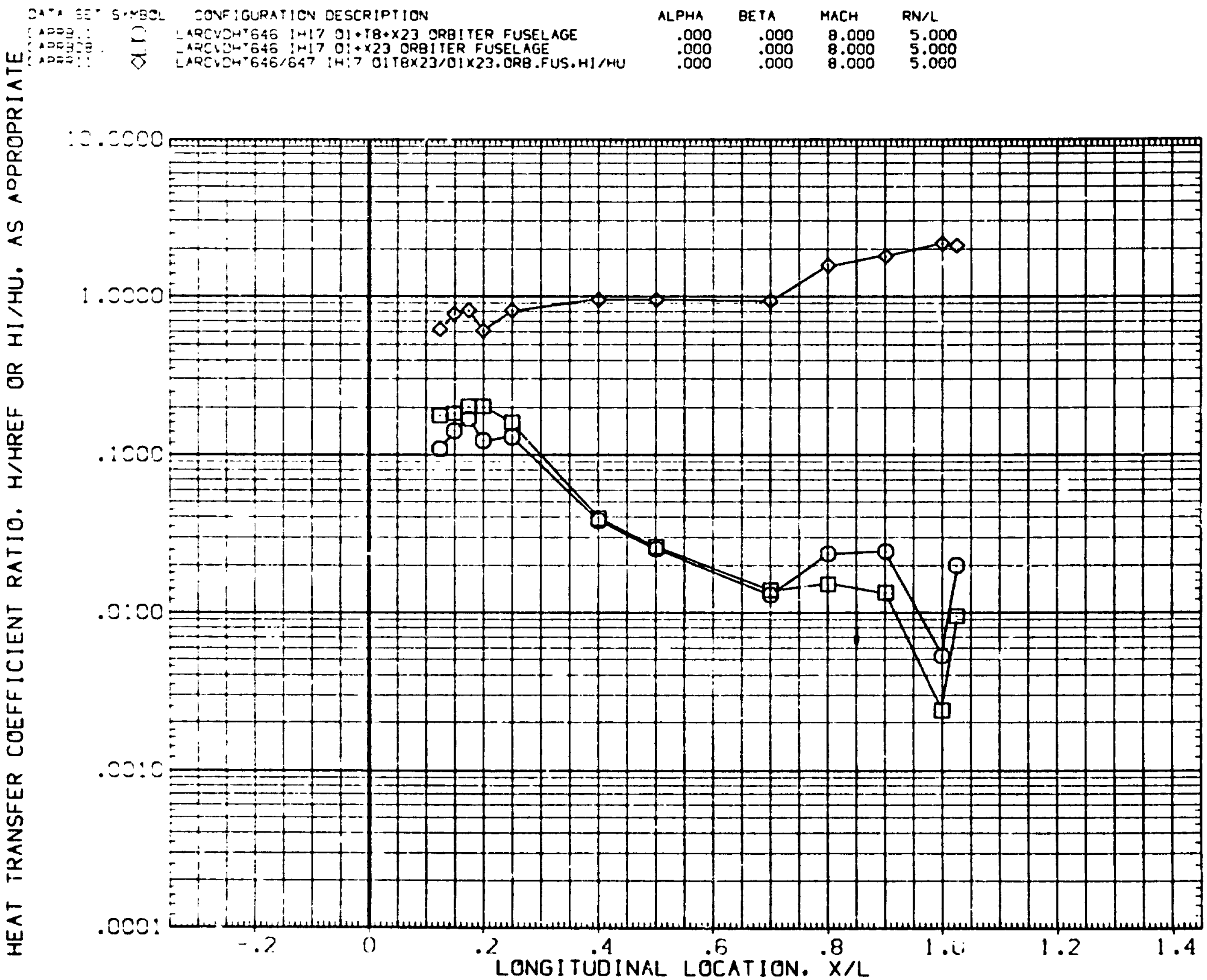


FIG. 14 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 Y(BP) = .000

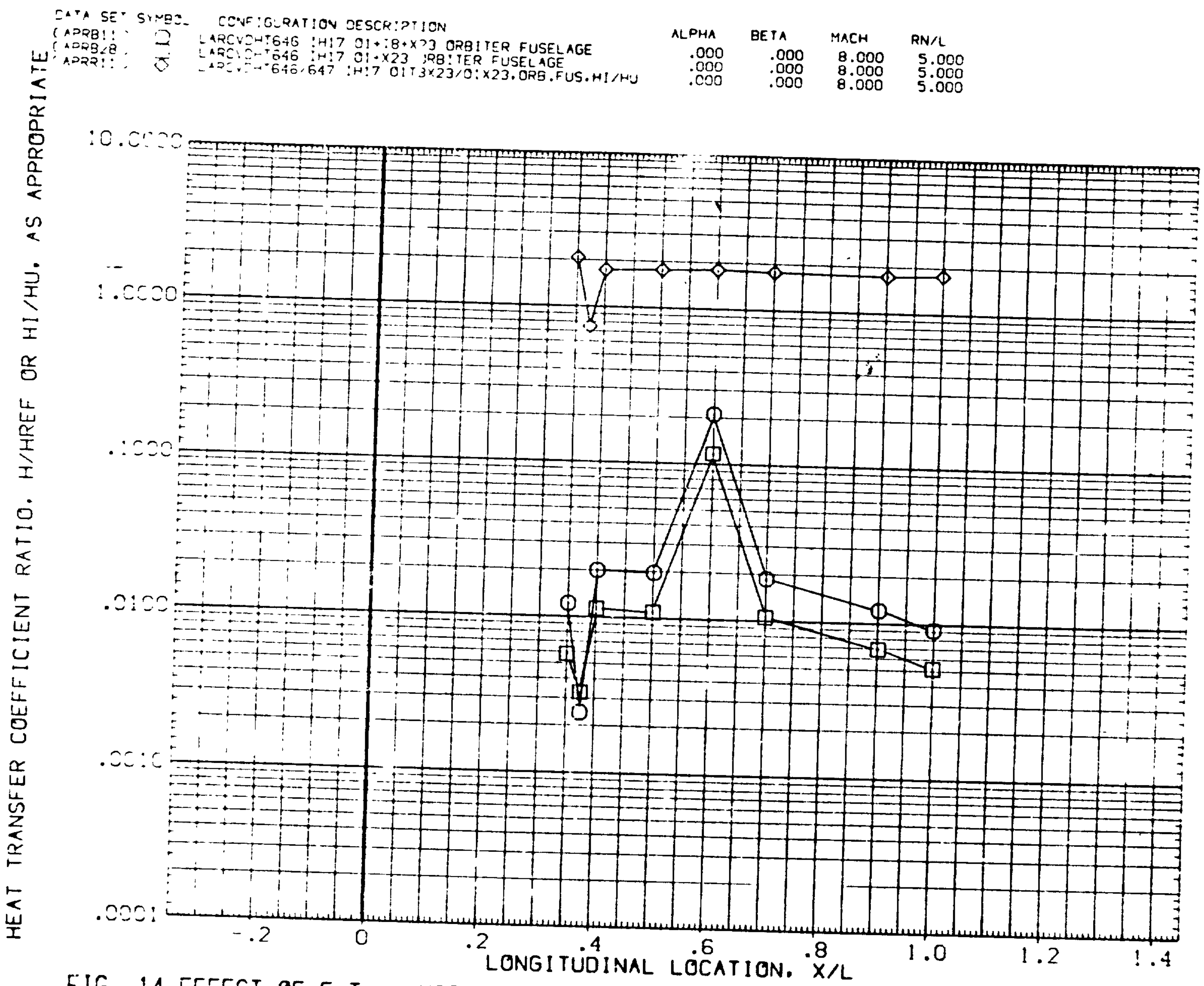


FIG. 14 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 Y(BP) = 70.000

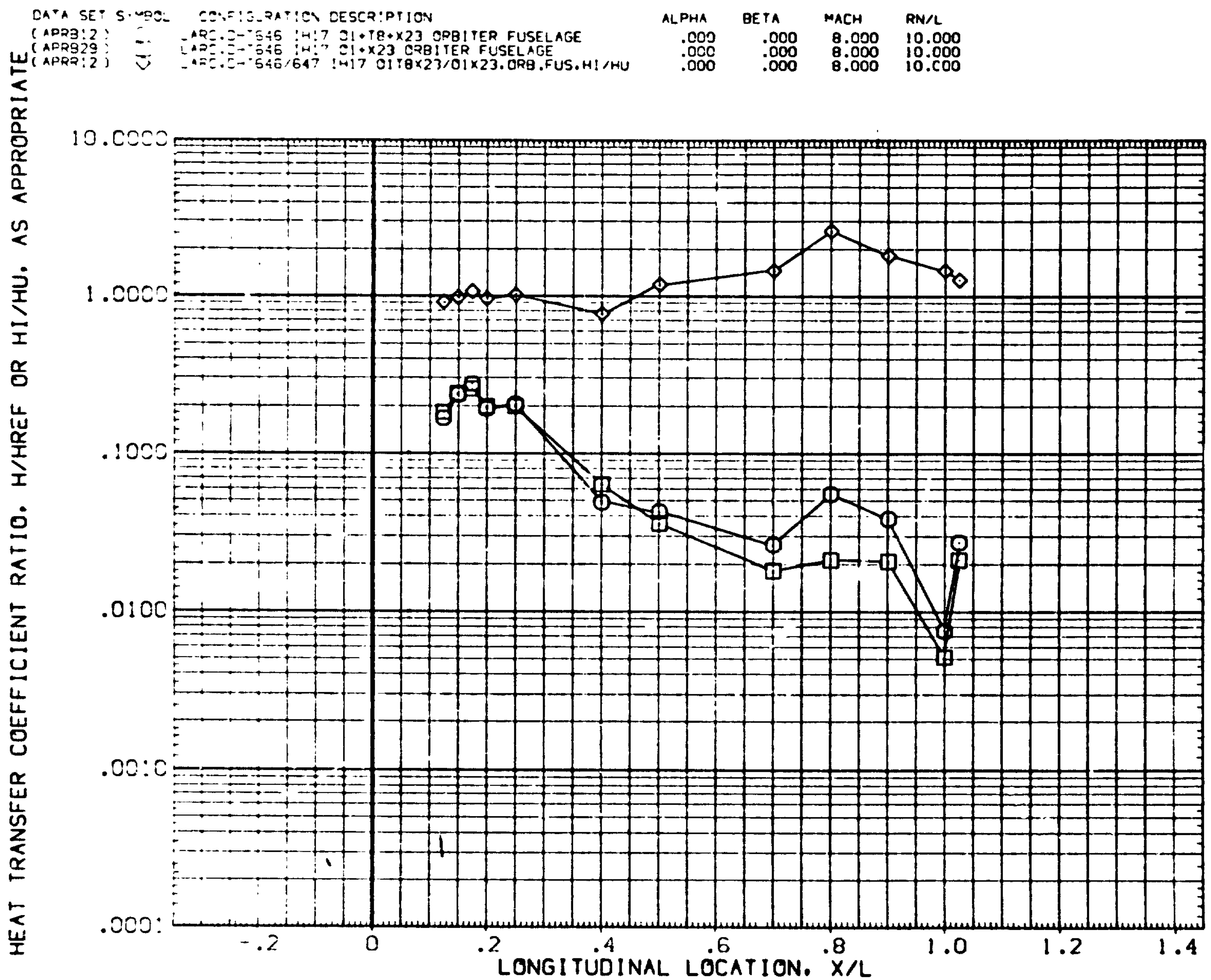


FIG. 15 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 Y(BP) = .000

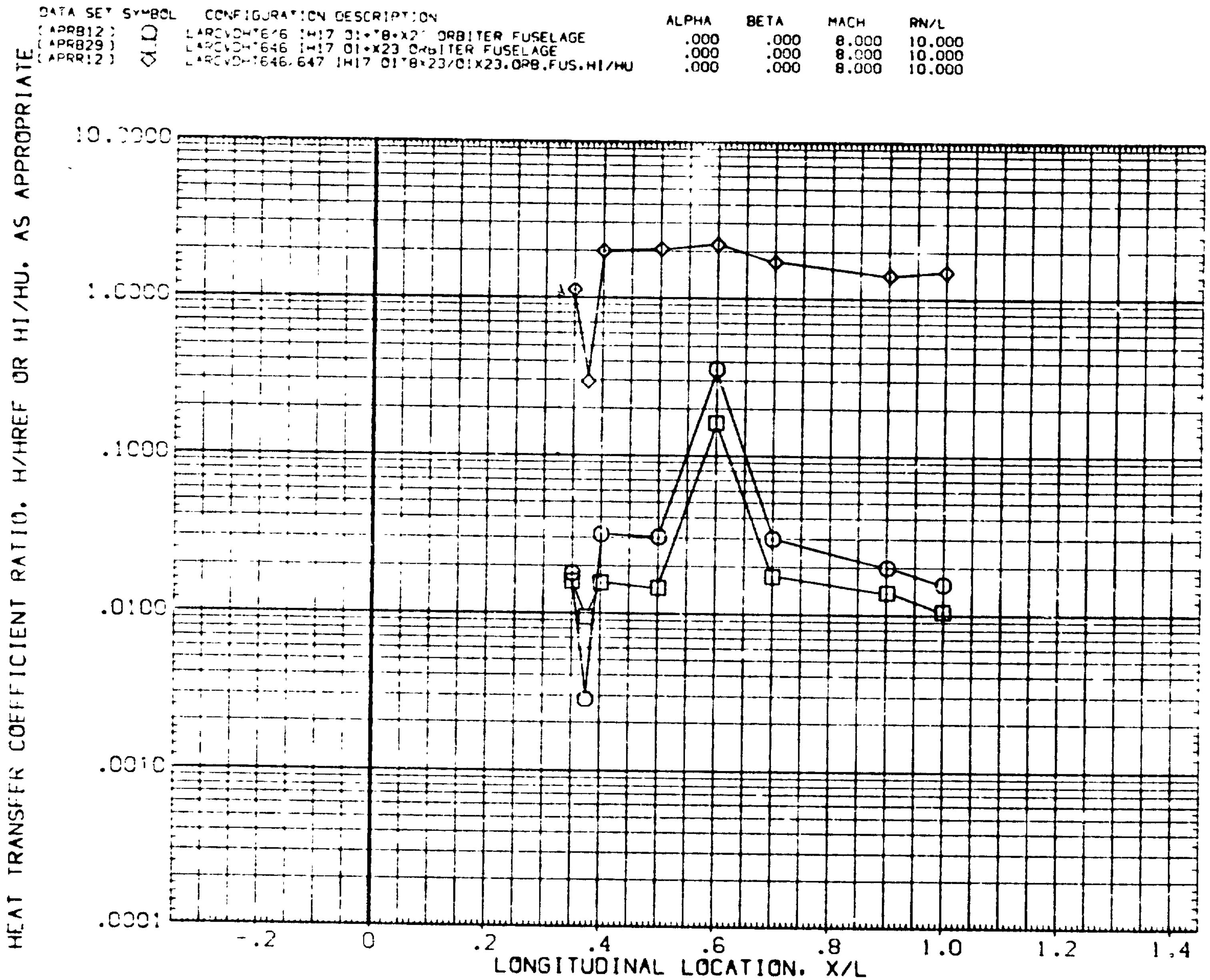


FIG. 15 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 Y(BP) = 70.000

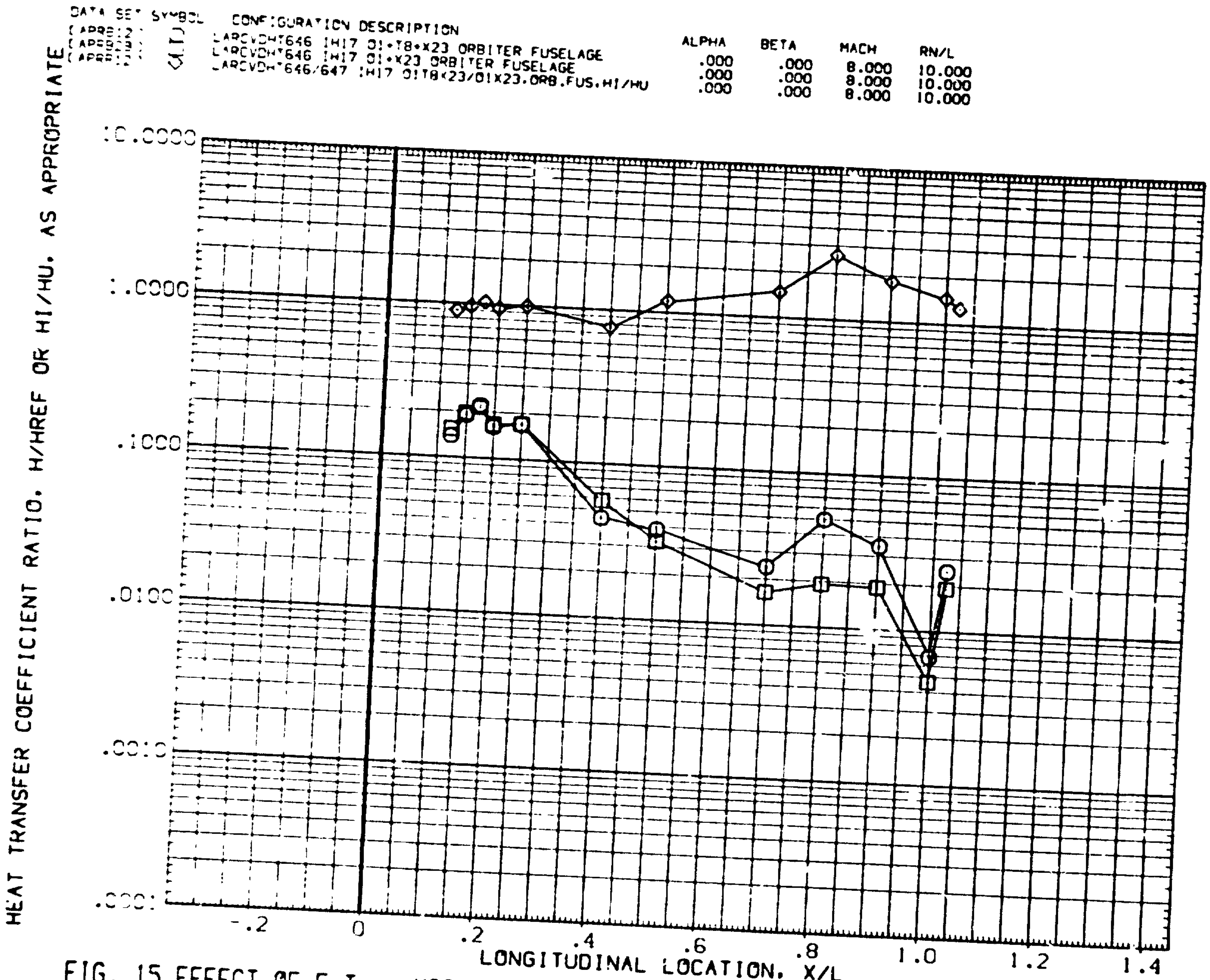


FIG. 15 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 Y(BP) = .000

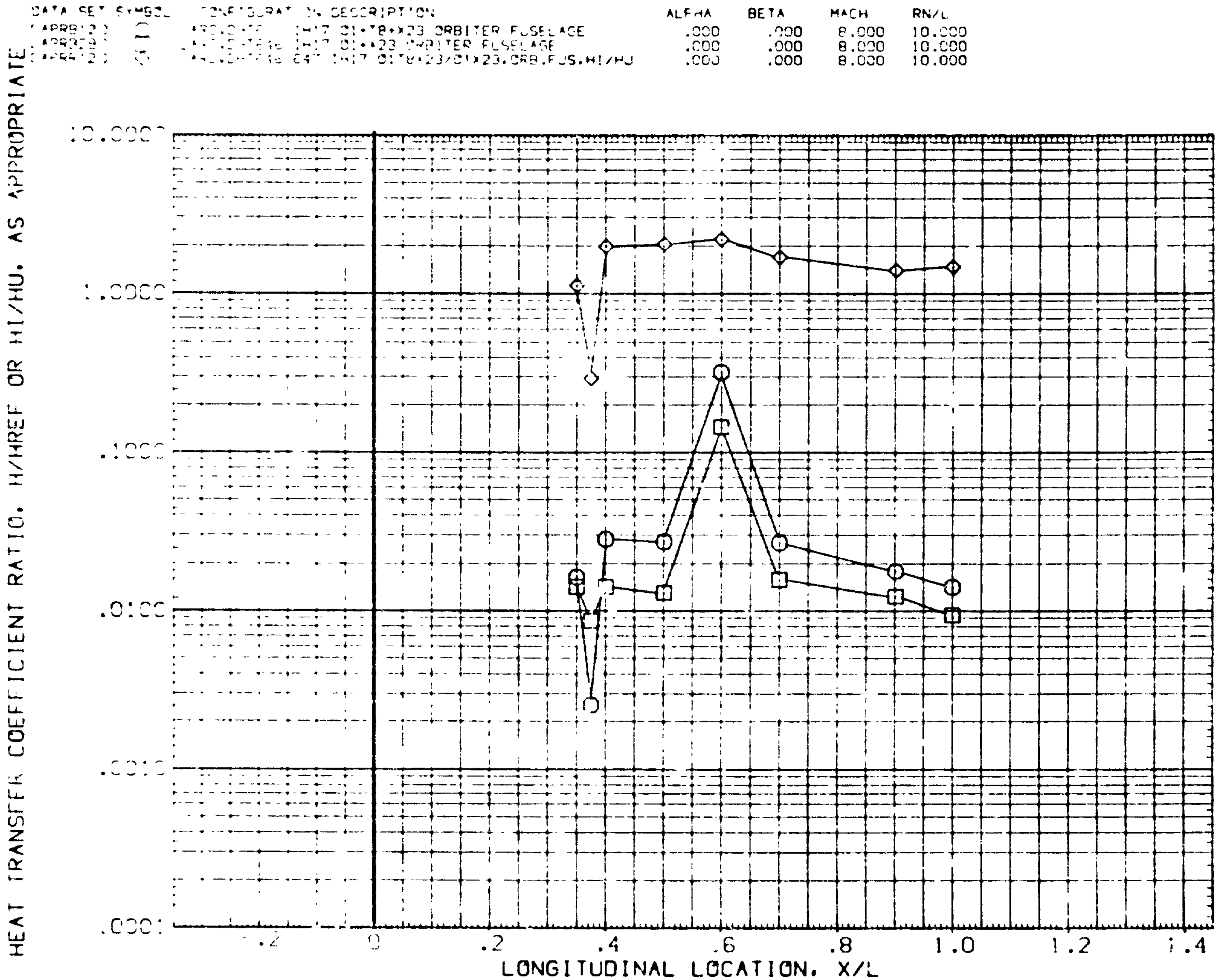


FIG. 15 EFFECT OF E.T. + X23 ON ORB. FUS. HEAT TRANSFER(RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 Y(BP) = 70.000

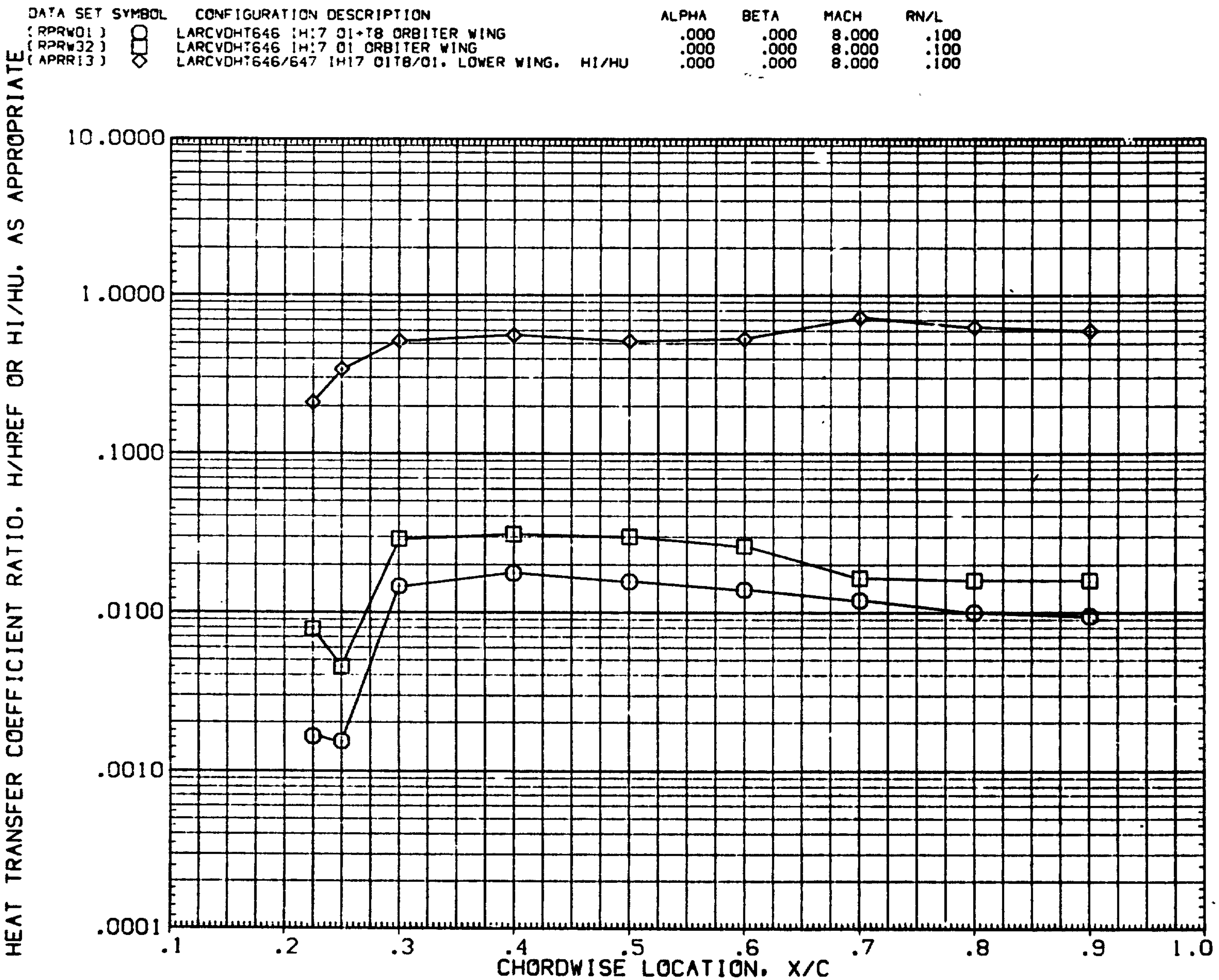


FIG. 16 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 2Y/B = .400

2-2

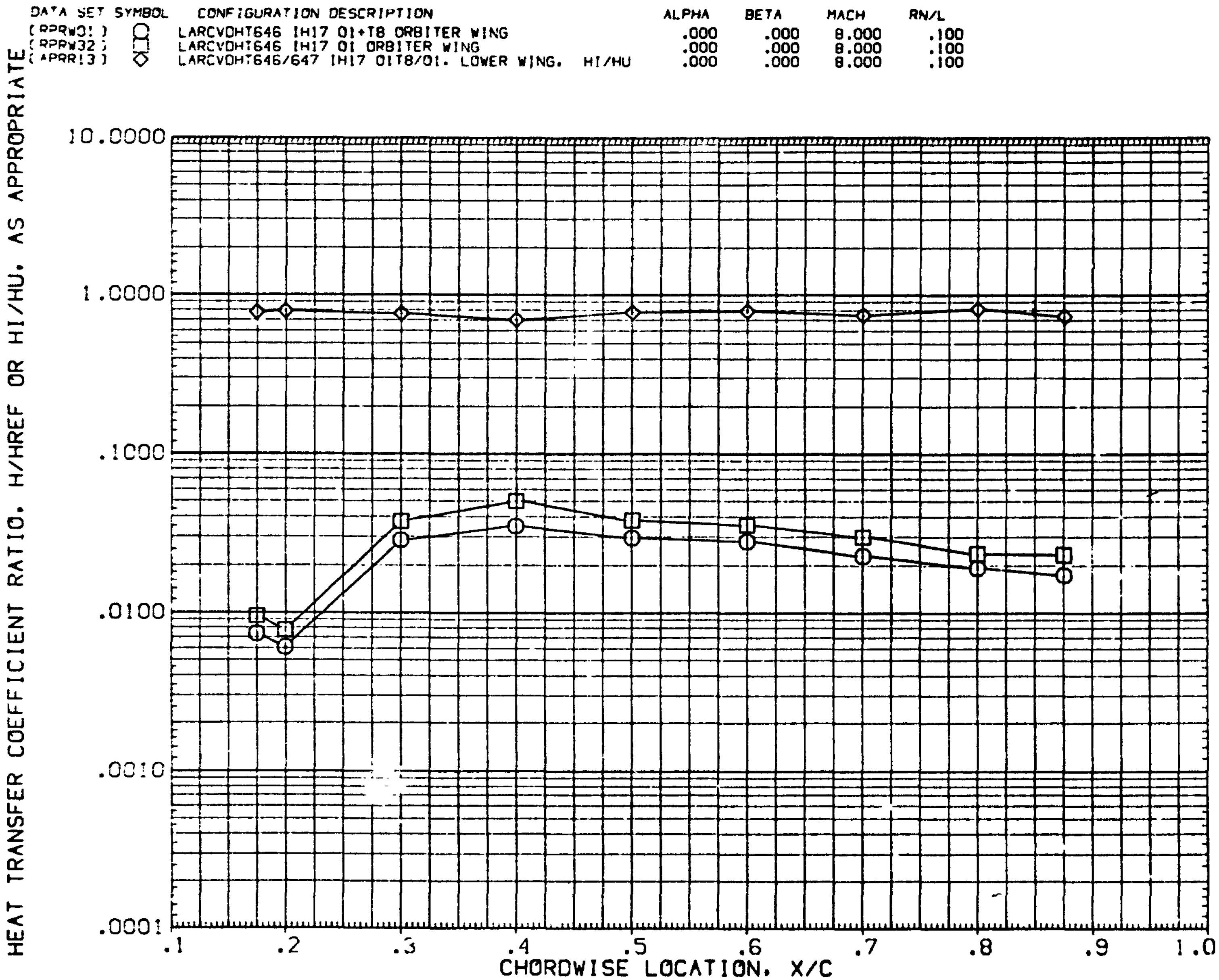


FIG. 16 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 2Y/B = .600

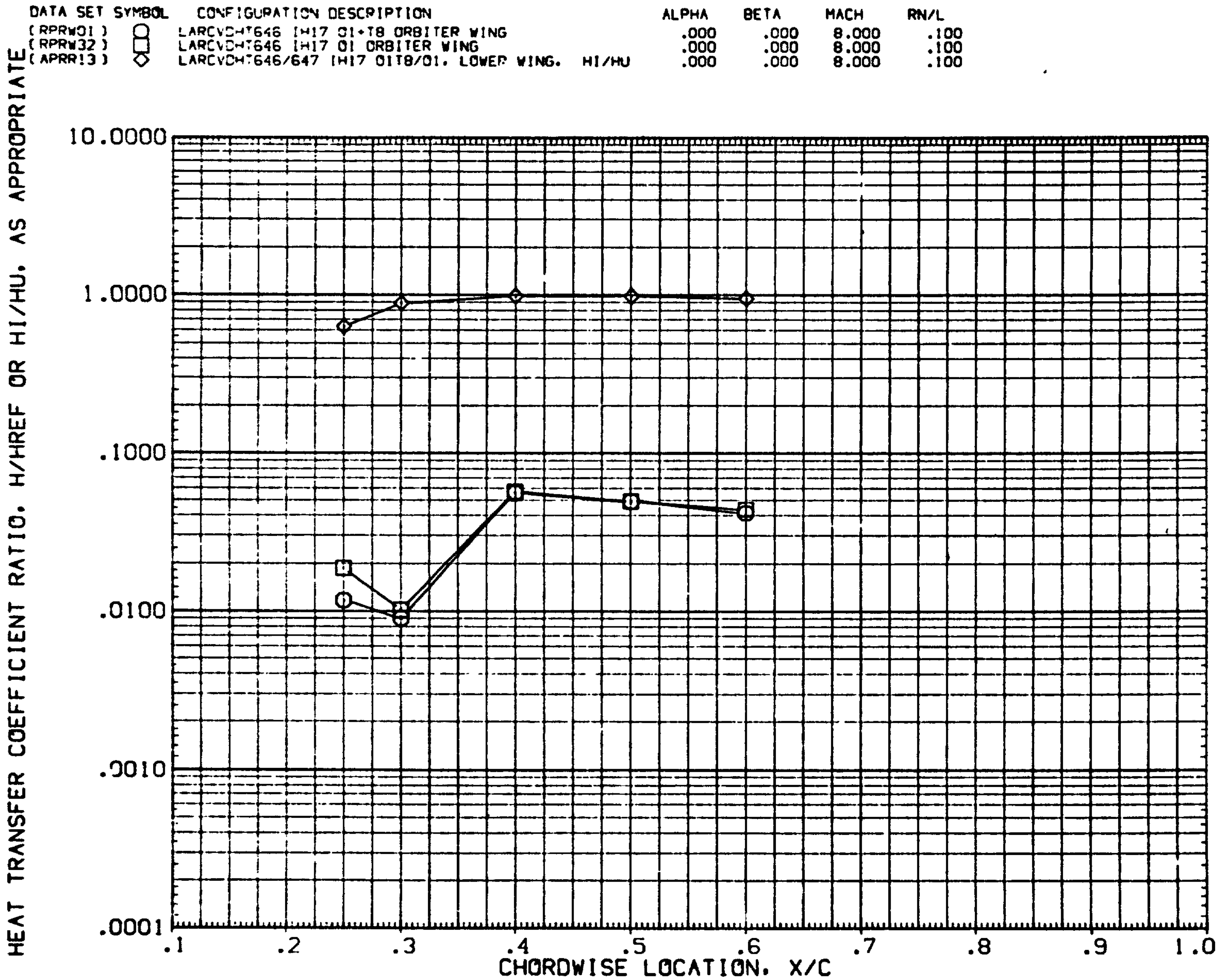


FIG. 16 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 2Y/B = .800

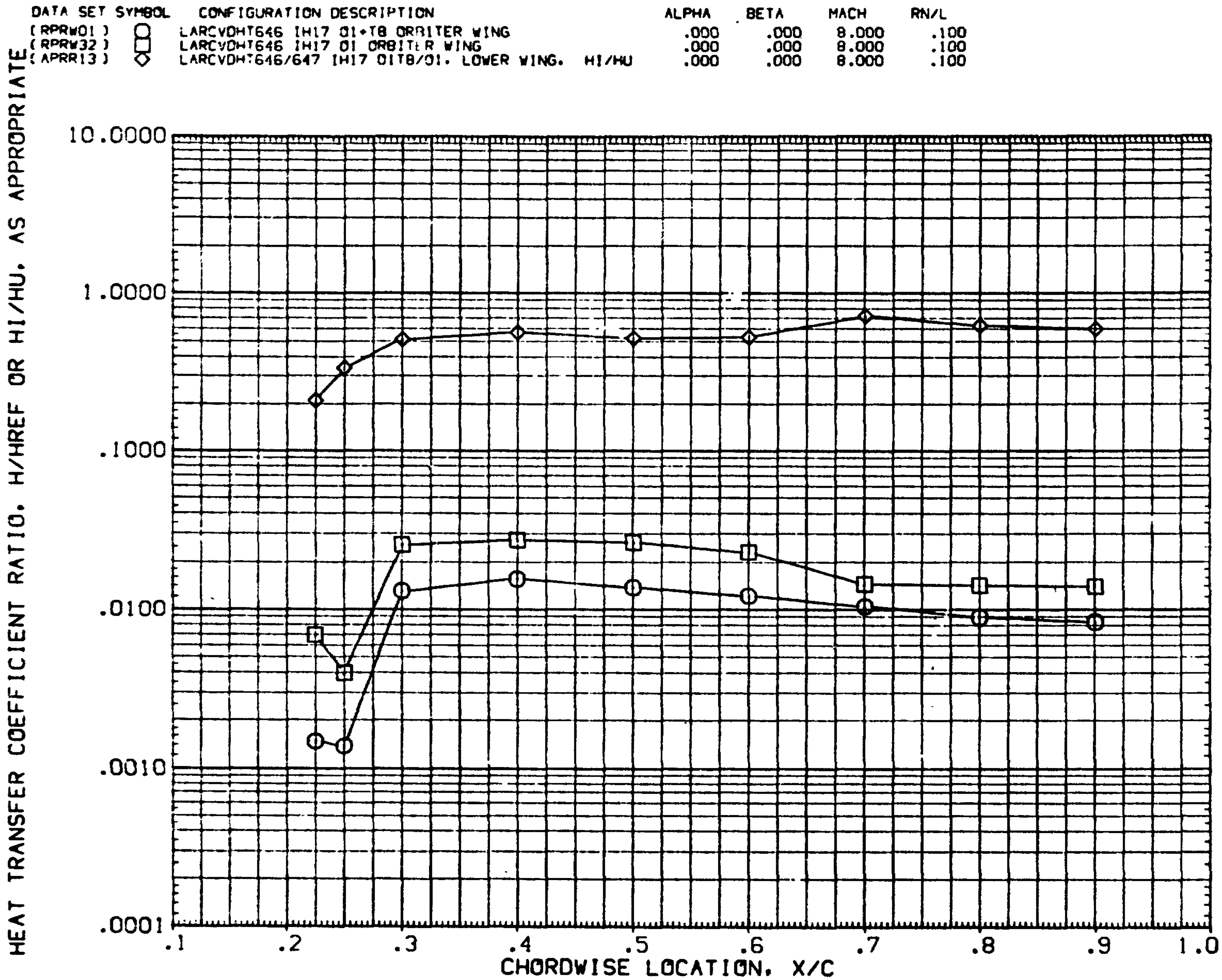


FIG. 16 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 2Y/B = .400

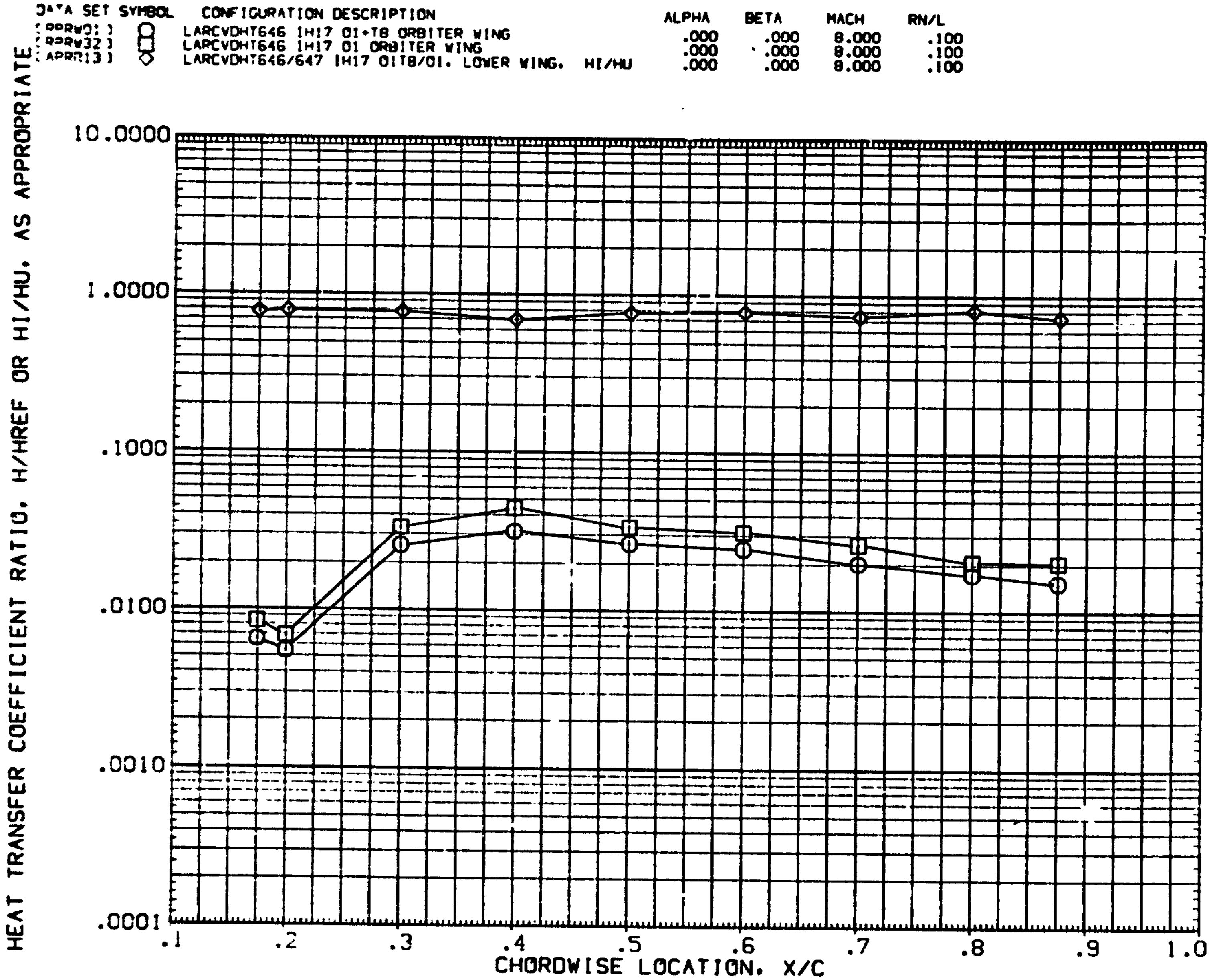


FIG. 16 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 2Y/B = .600

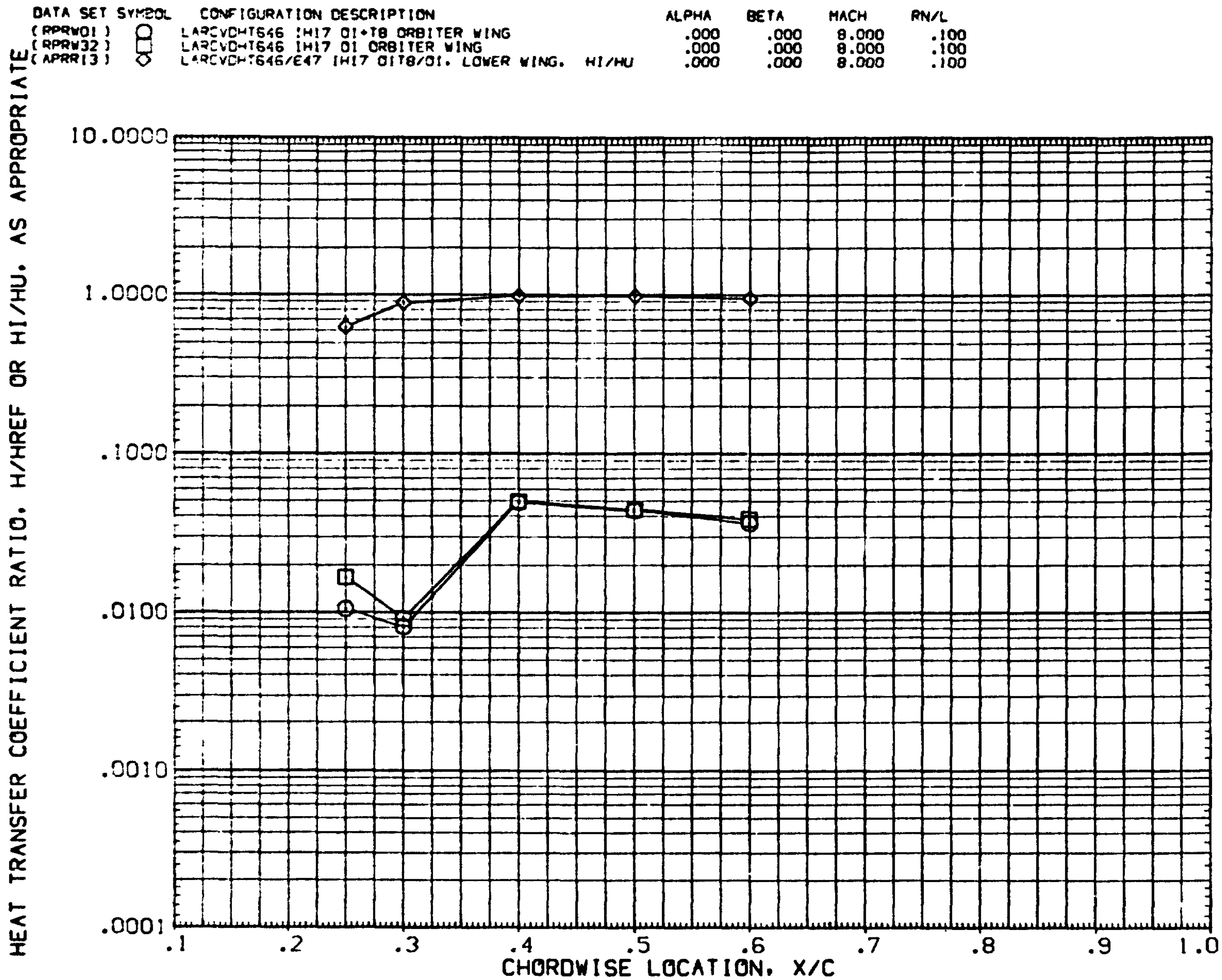


FIG. 16 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 2Y/B = .800

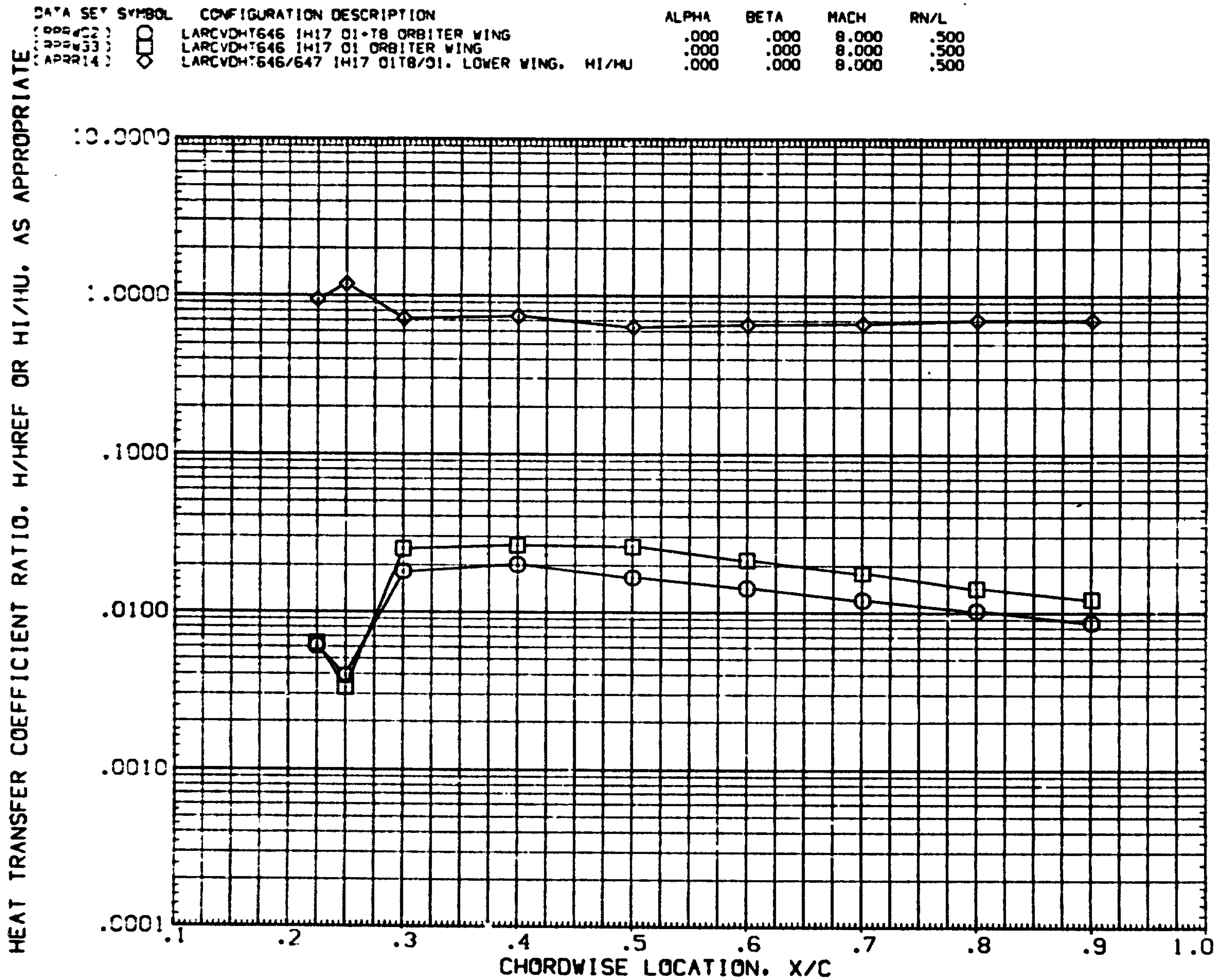


FIG. 17 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 2Y/B = .400

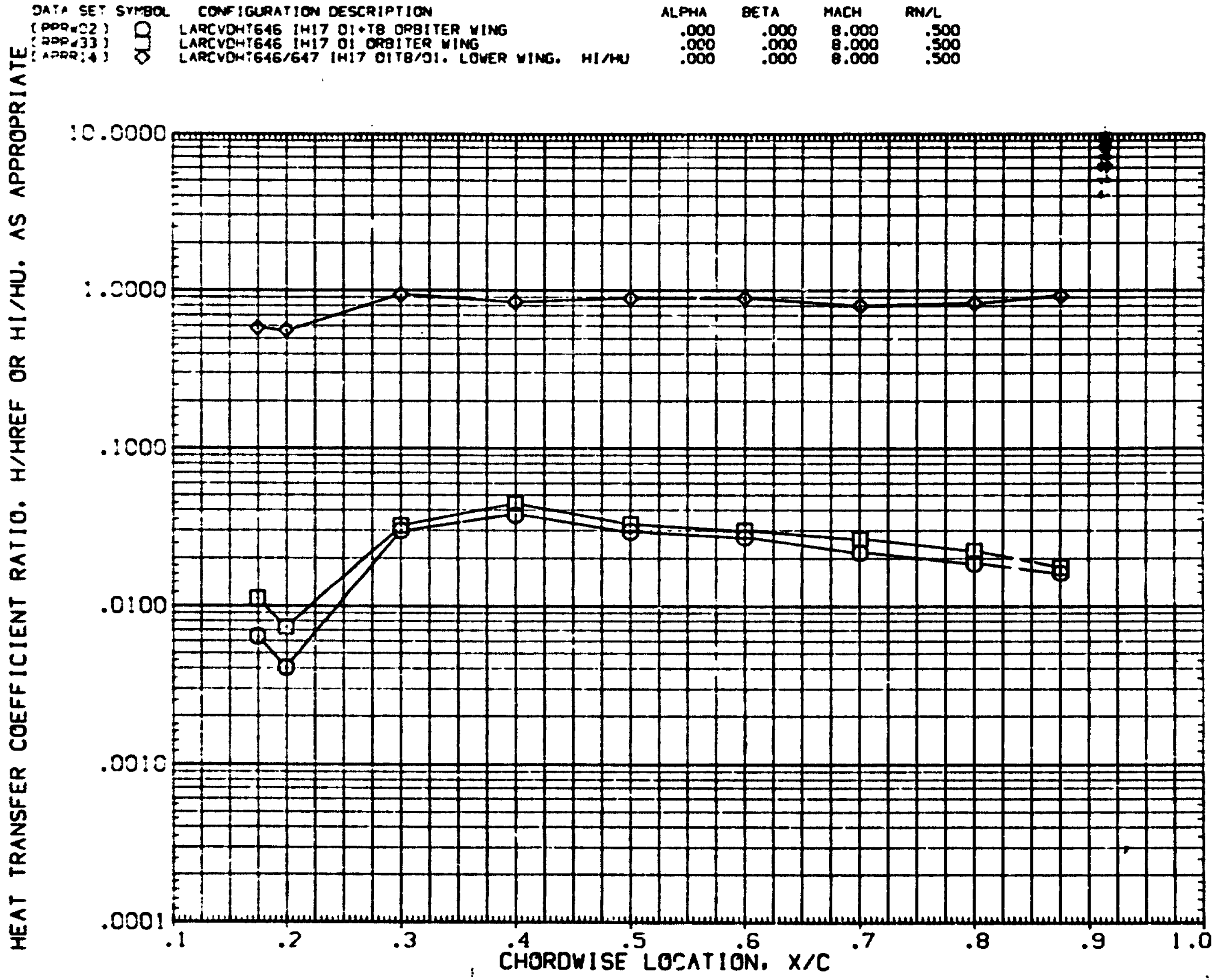


FIG. 17 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 2Y/B = .600

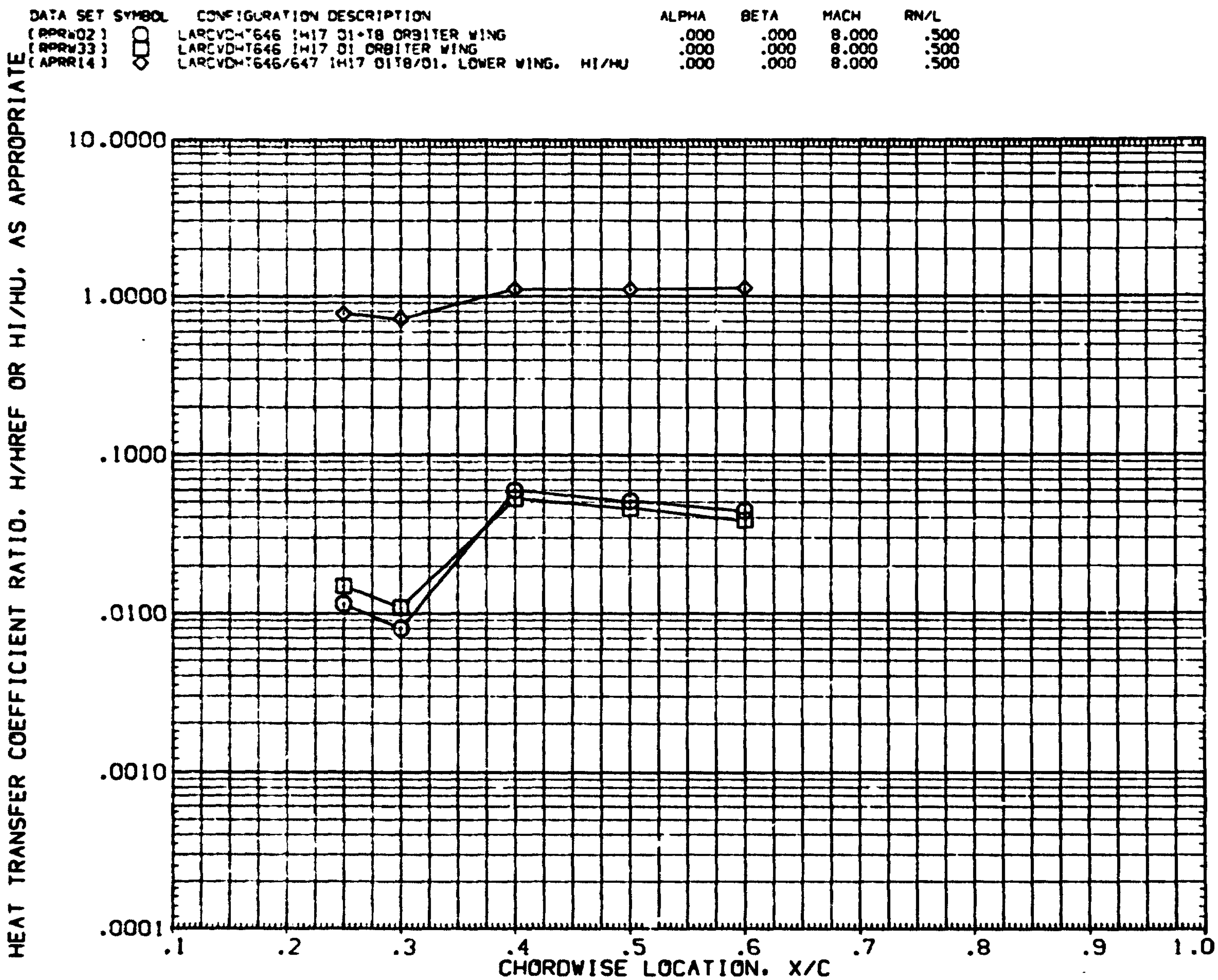


FIG. 17 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 2Y/B = .800

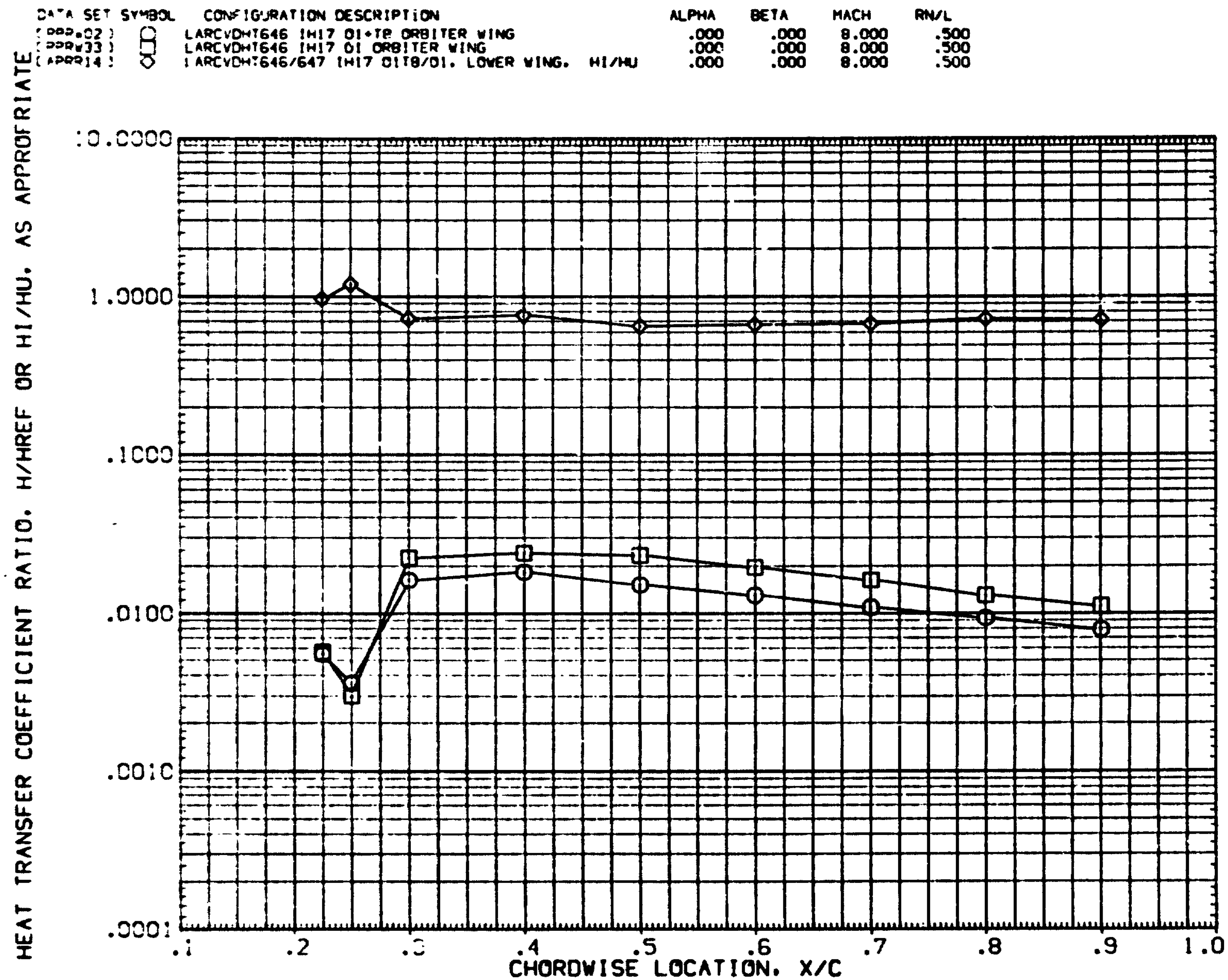


FIG. 17 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 2Y/B = .400

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
[RPRAC2]	○	LARCVDHT646 IH17 O1+T8 ORBITER WING	.000	.000	8.000	.500
[RPRB33]	□	LARCVDHT646 IH17 O1 ORBITER WING	.000	.000	8.000	.500
[APRR14]	◇	LARCVDHT646/647 IH17 O1T8/O1. LOWER WING. HI/HU	.000	.000	8.000	.500

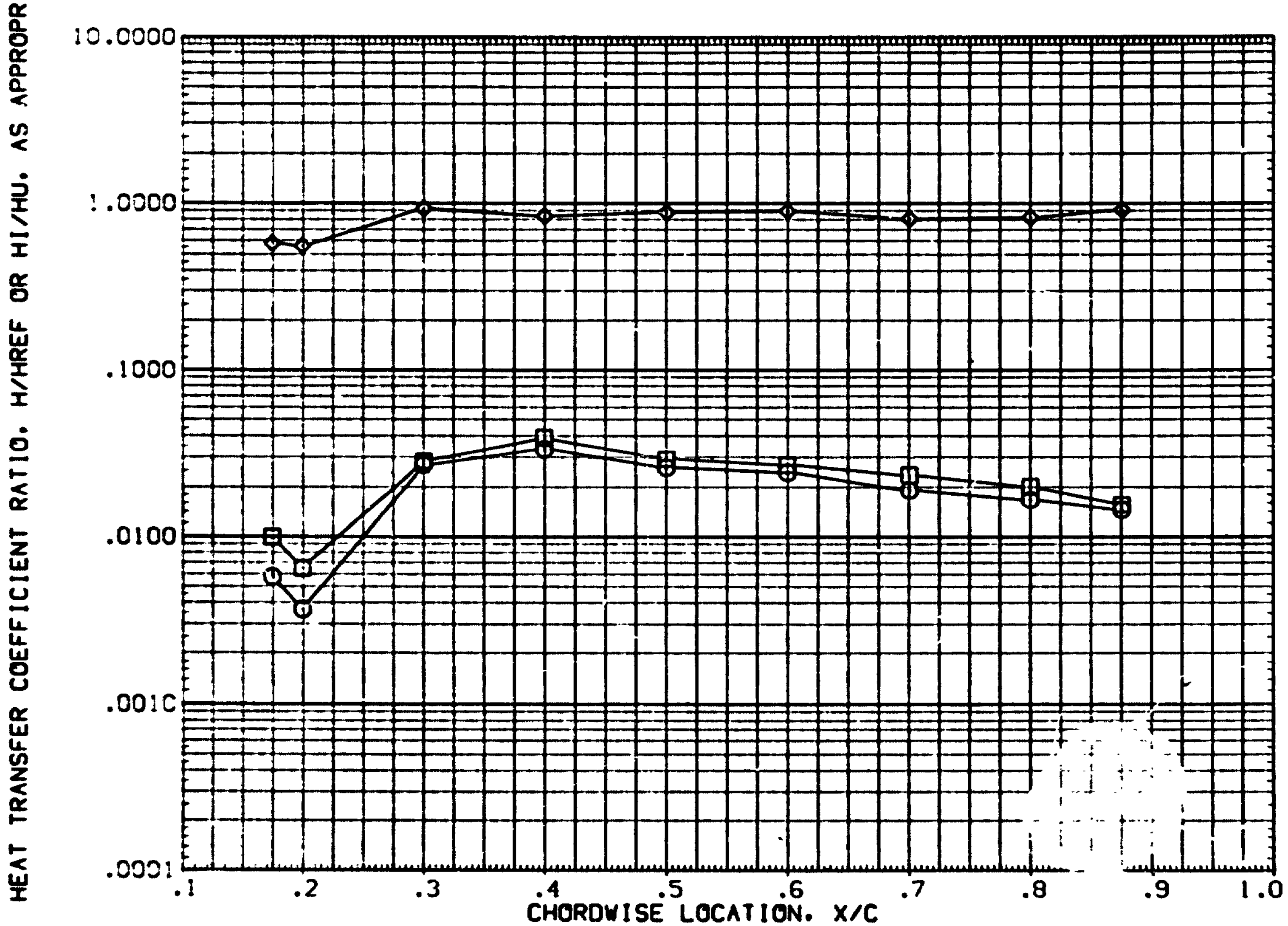


FIG. 17 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 2Y/B = .600

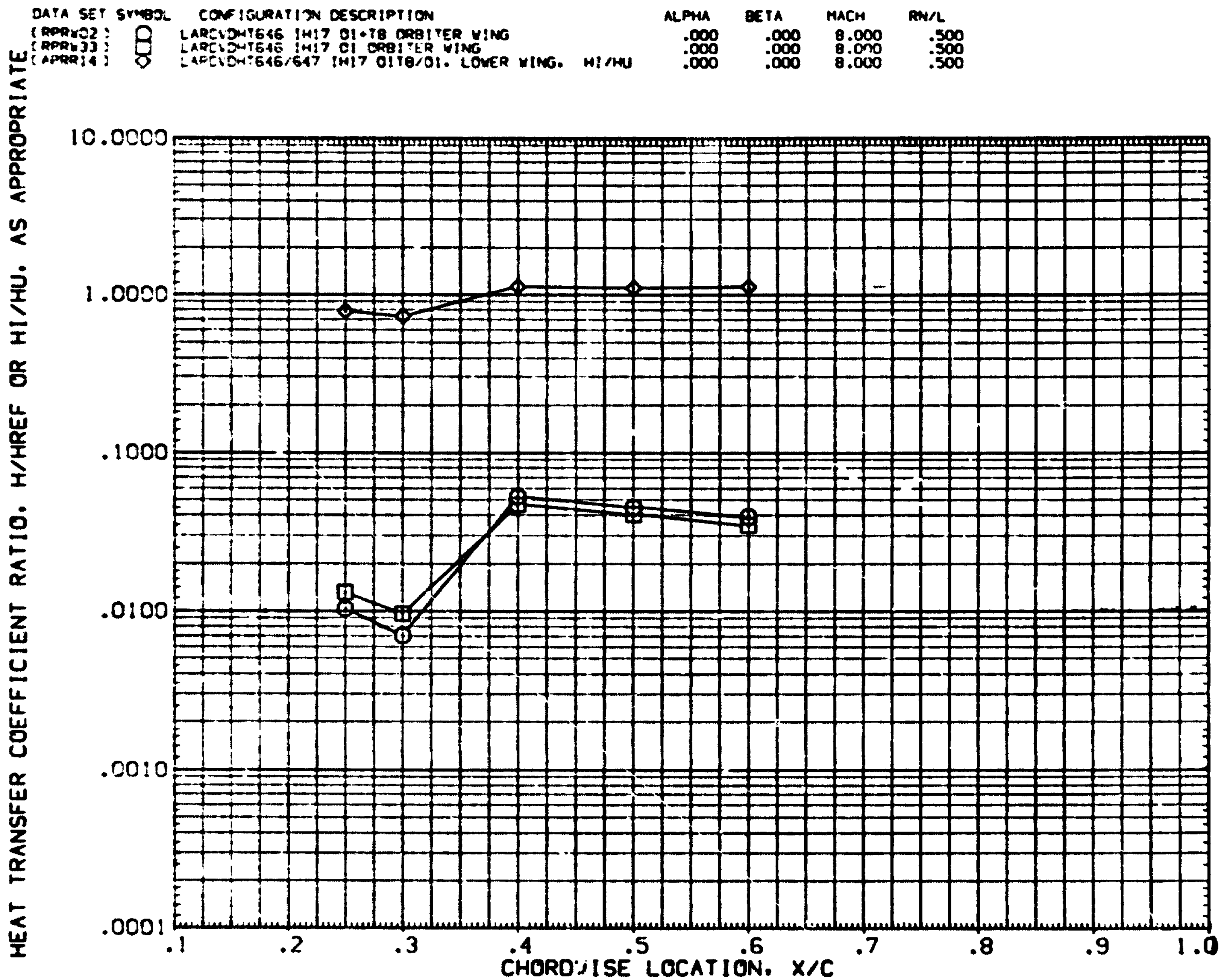


FIG. 17 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 2Y/B = .800

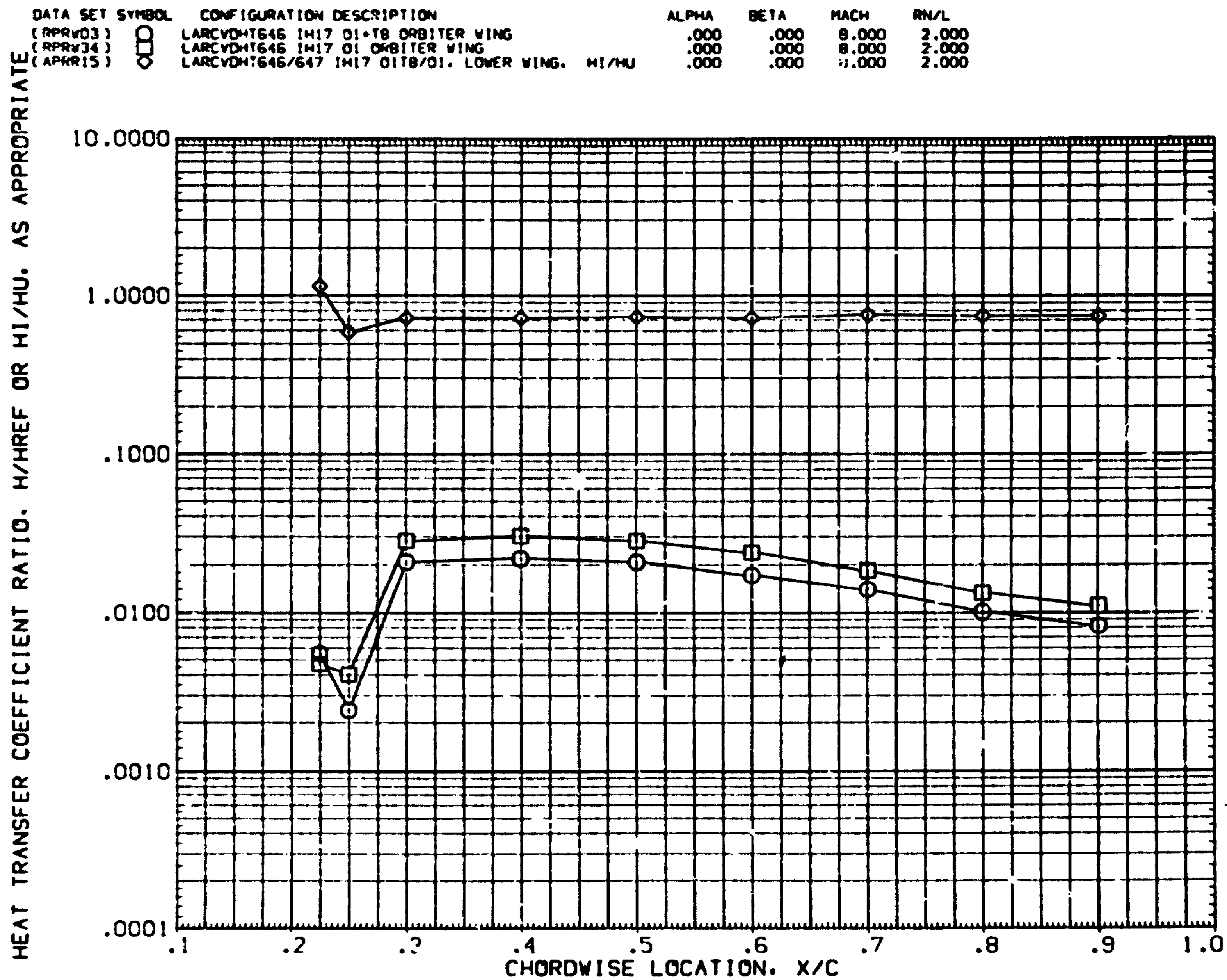


FIG. 18 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=2.0. ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 2Y/3 = .400

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(RPRW03)	○	LARCVDHT646 IH17 O1+T8 ORBITER WING	.000	.000	8.000	2.000
(RPRW34)	□	LARCVDHT646 IH17 O1 ORBITER WING	.000	.000	8.000	2.000
(APRR15)	◇	LARCVDHT646/647 IH17 O1T8/O1. LOWER WING. HI/HU	.000	.000	8.000	2.000

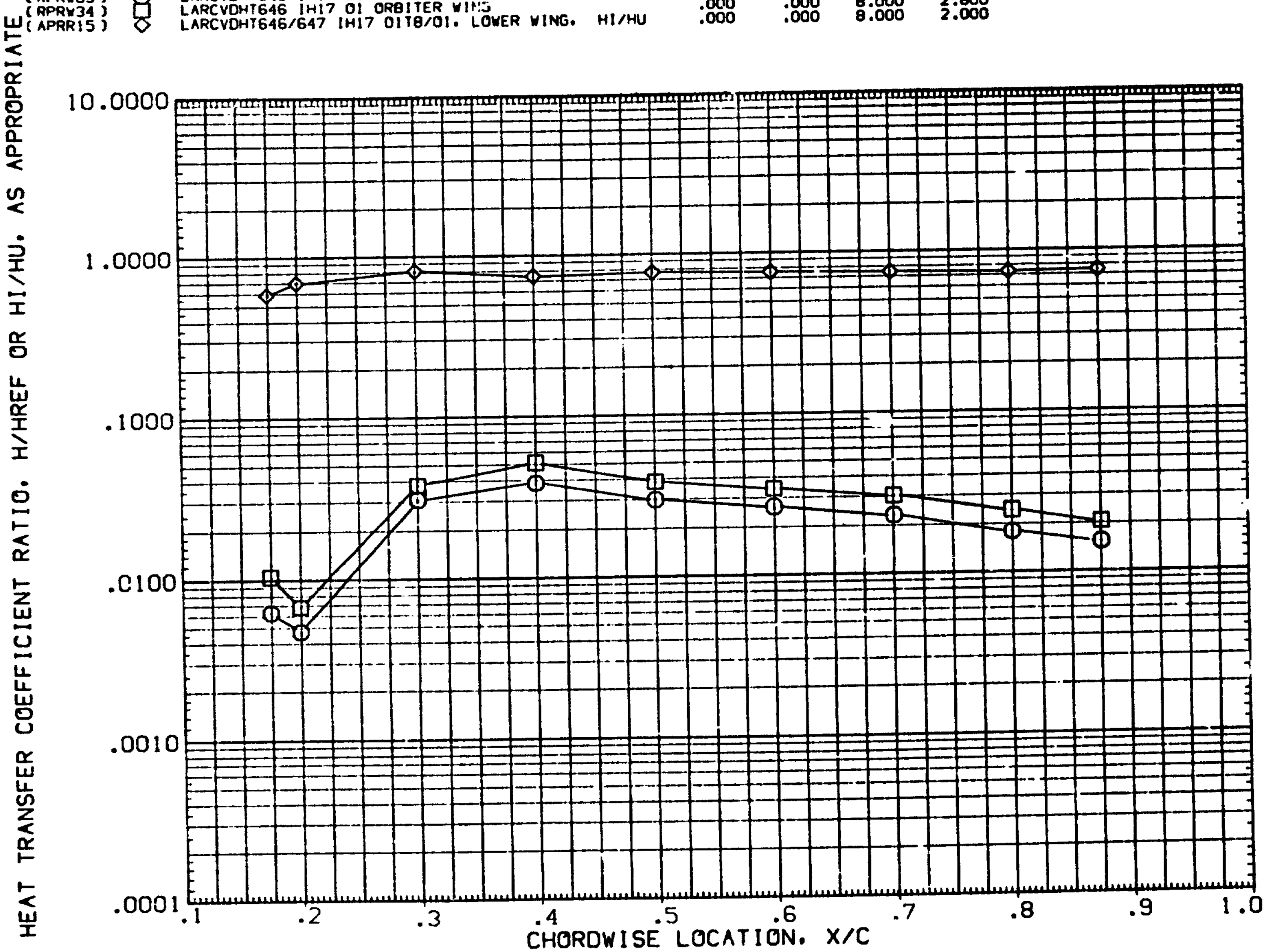


FIG. 18 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 2Y/B = .600

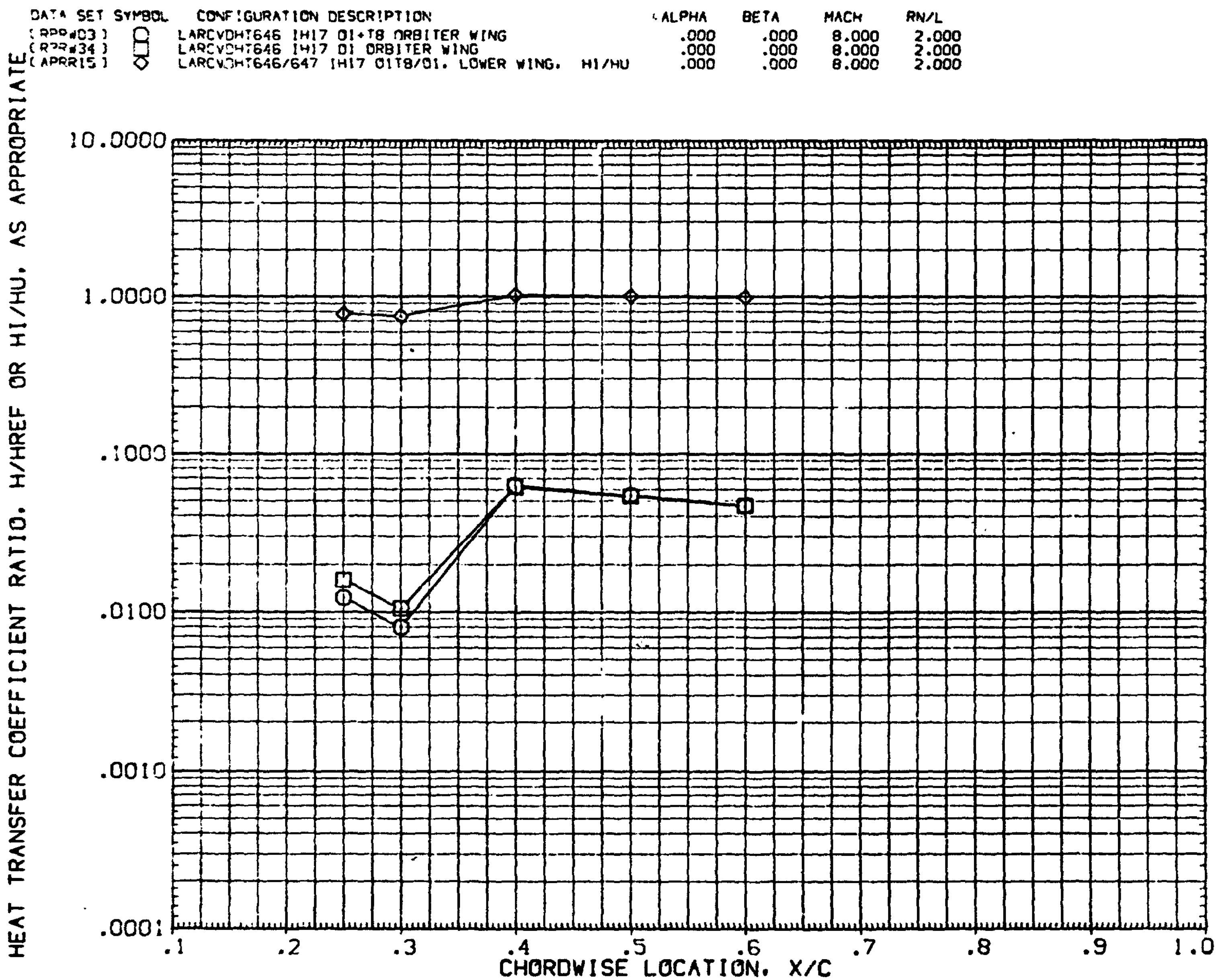


FIG. 18 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 2Y/B = .800

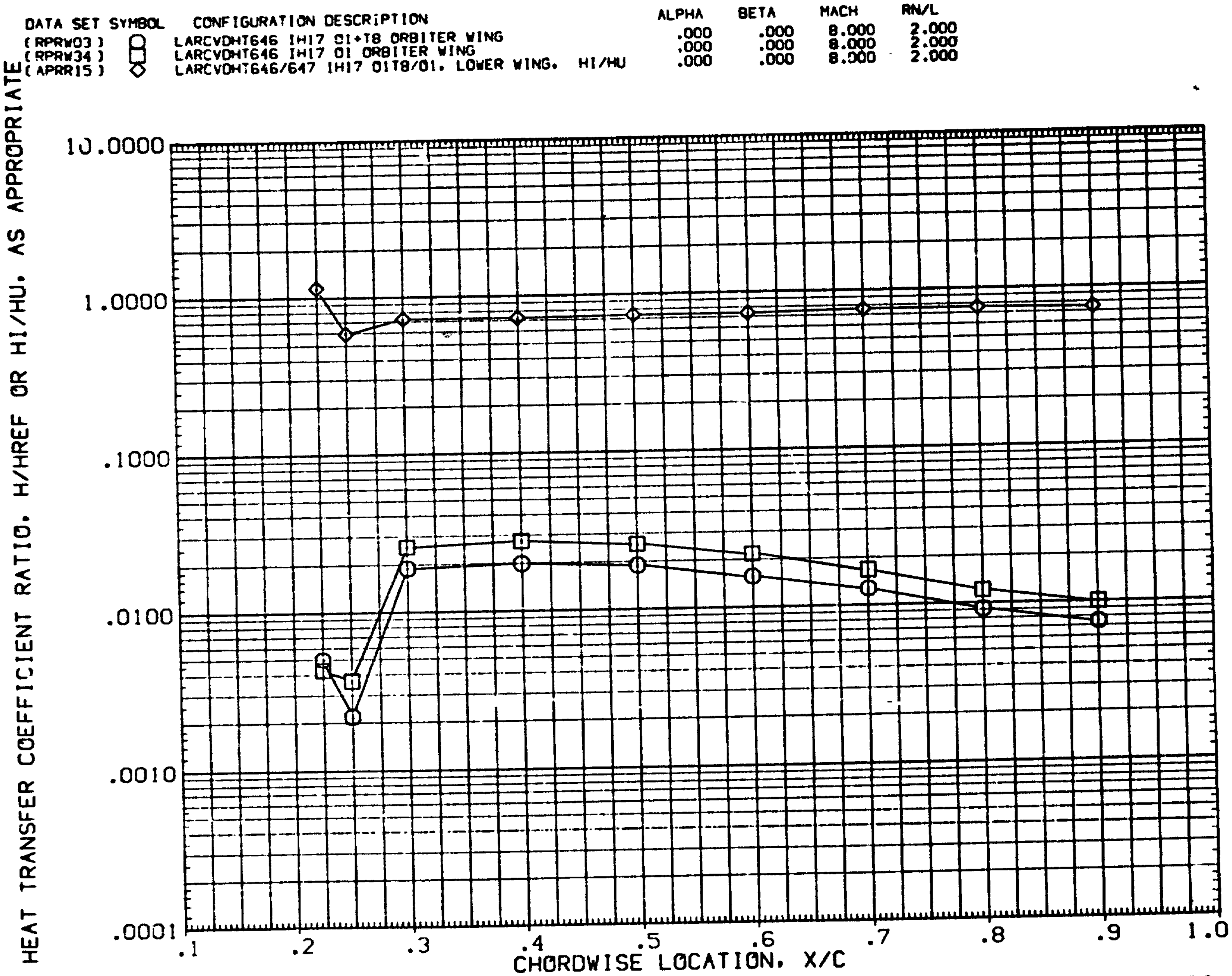


FIG. 18 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 2Y/B = .400

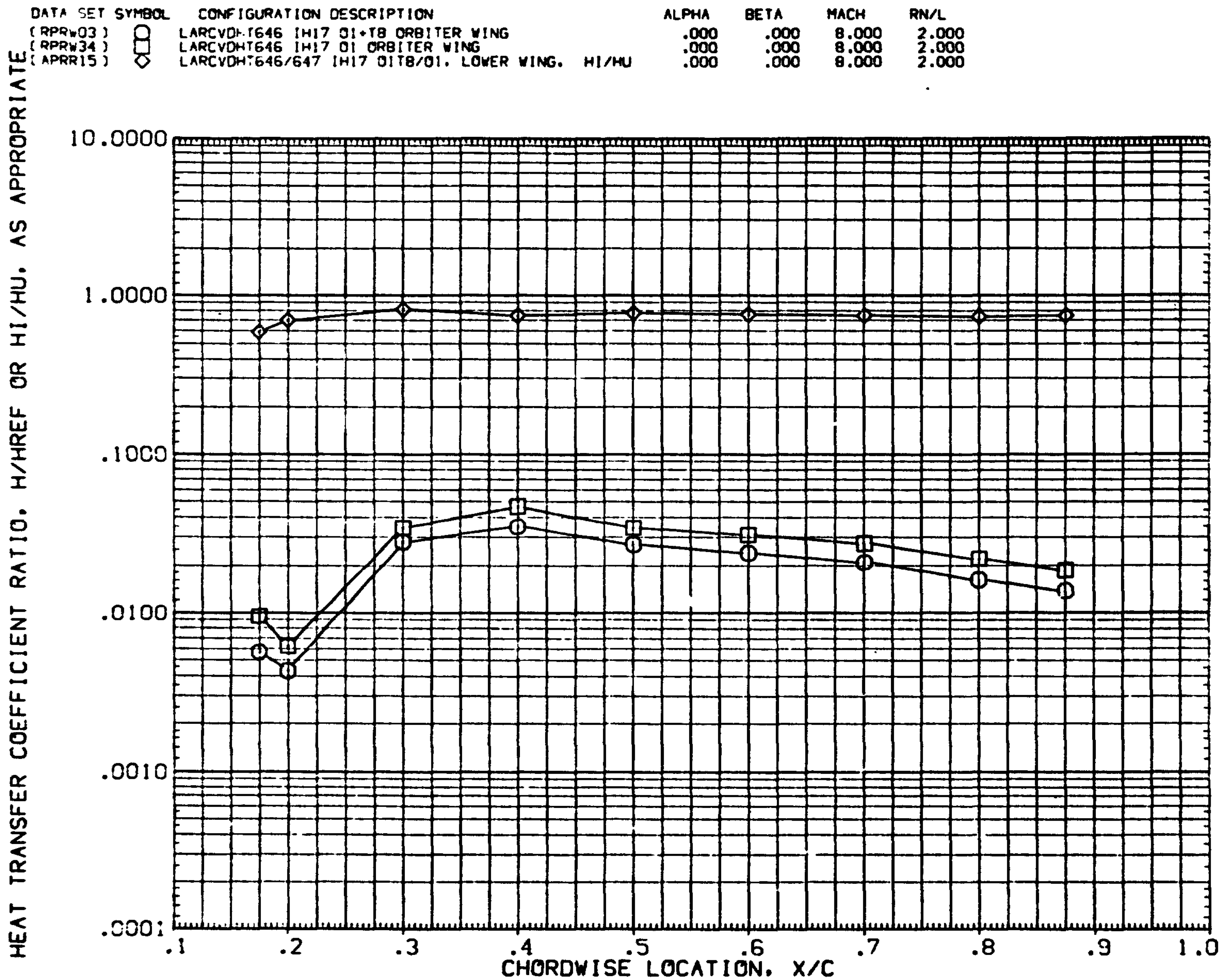


FIG. 18 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 2Y/B = .600

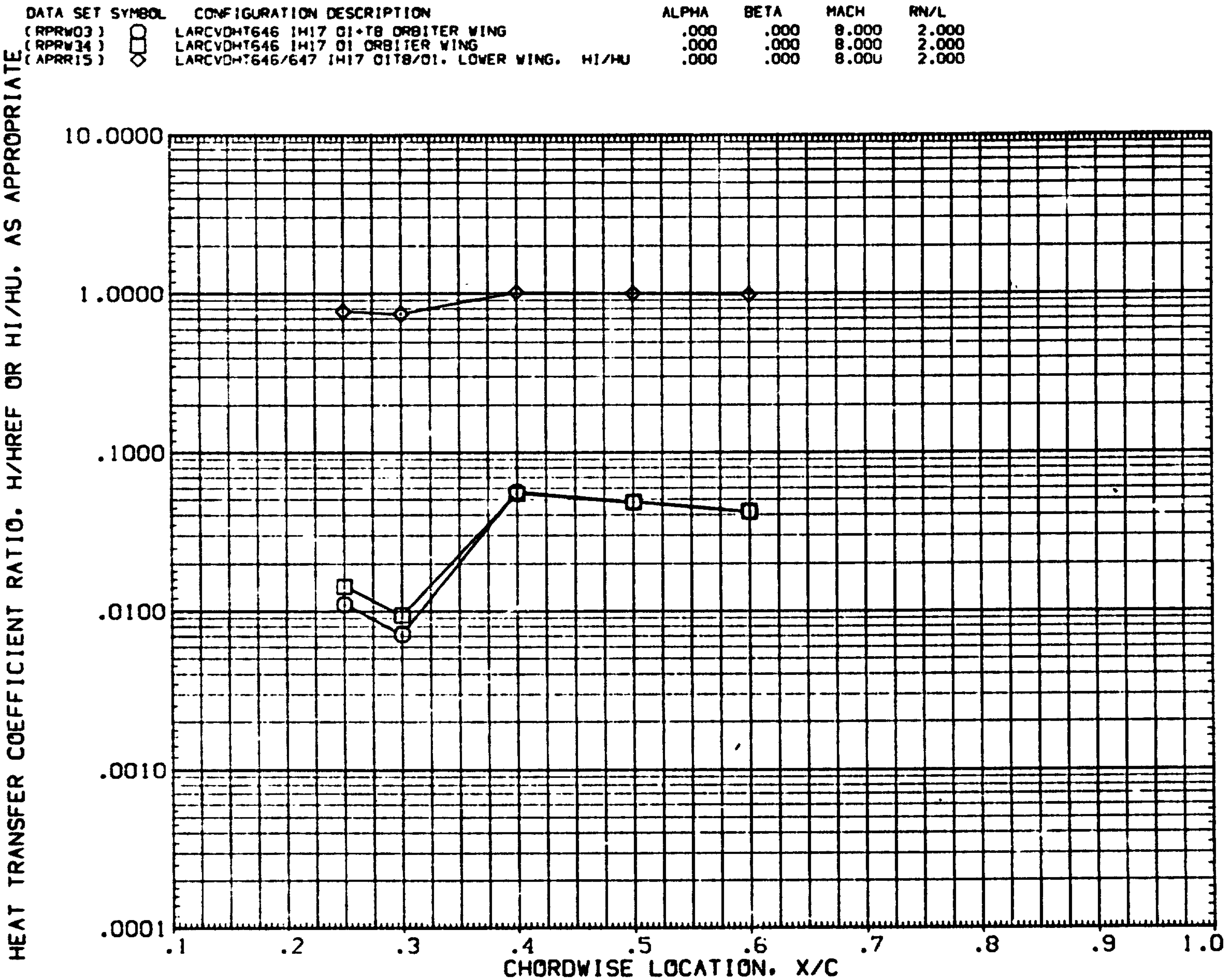


FIG. 18 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 2Y/B = .800

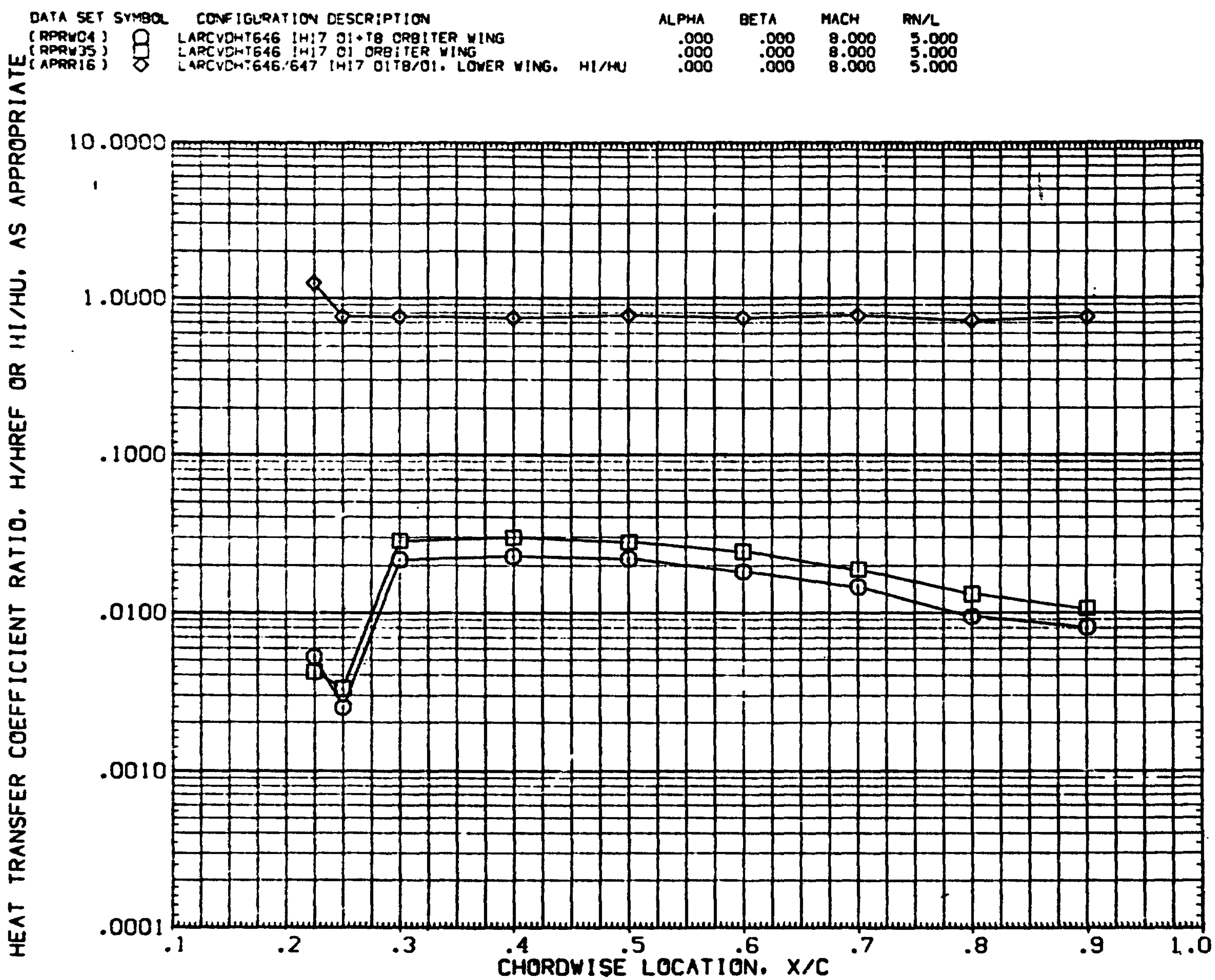


FIG. 19 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 2Y/B = .400

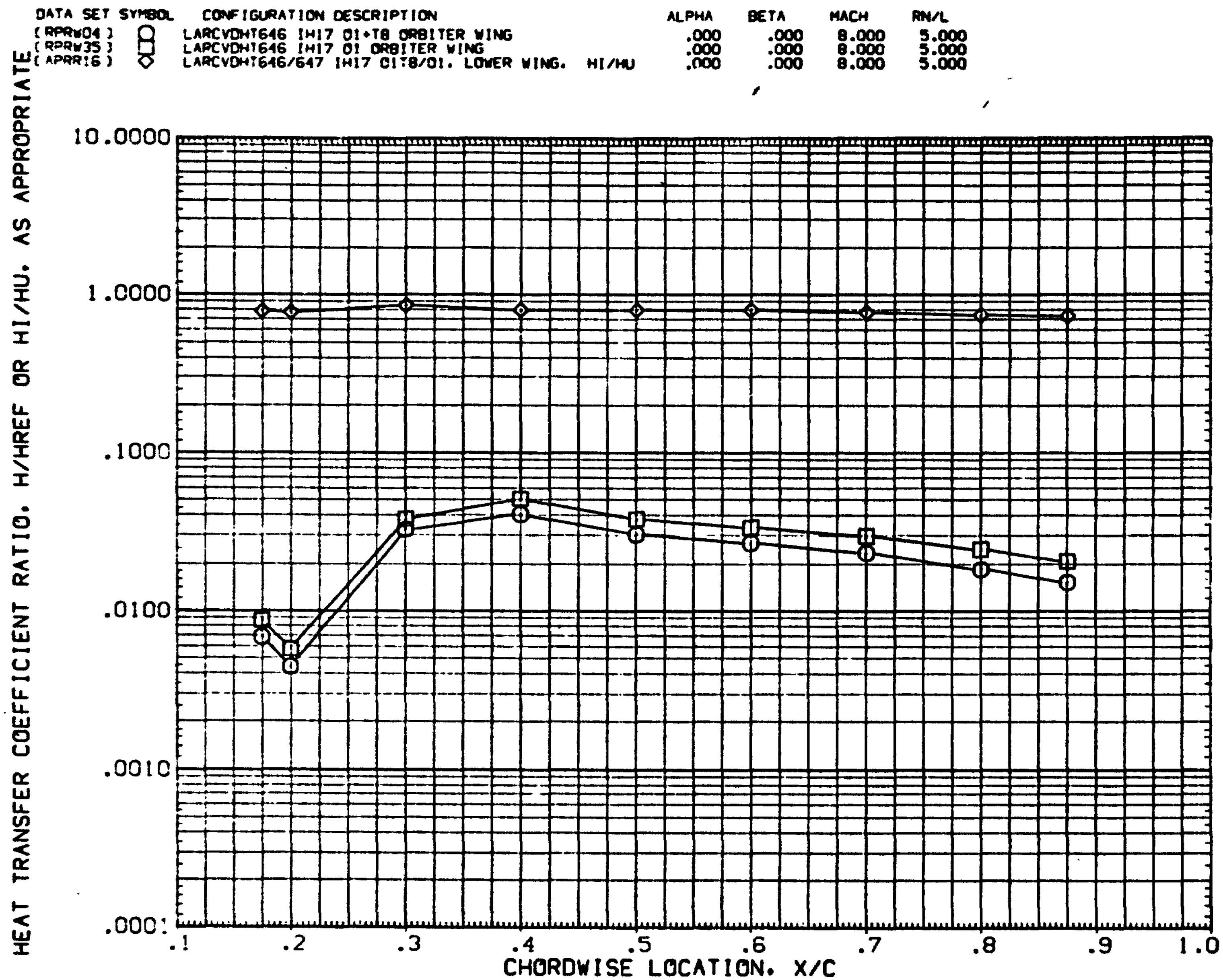


FIG. 19 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 2Y/B = .600

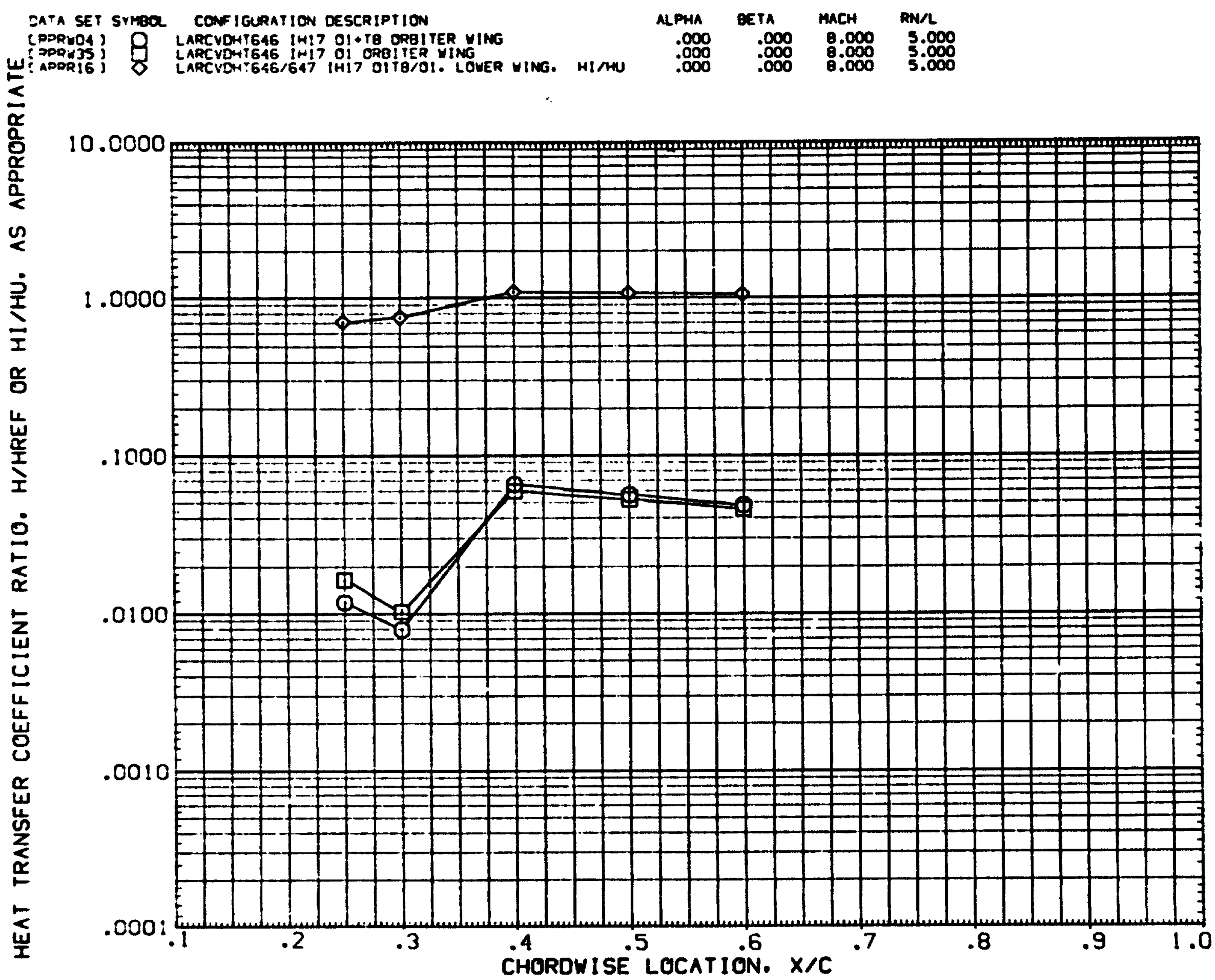


FIG. 19 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 2Y/B = .800

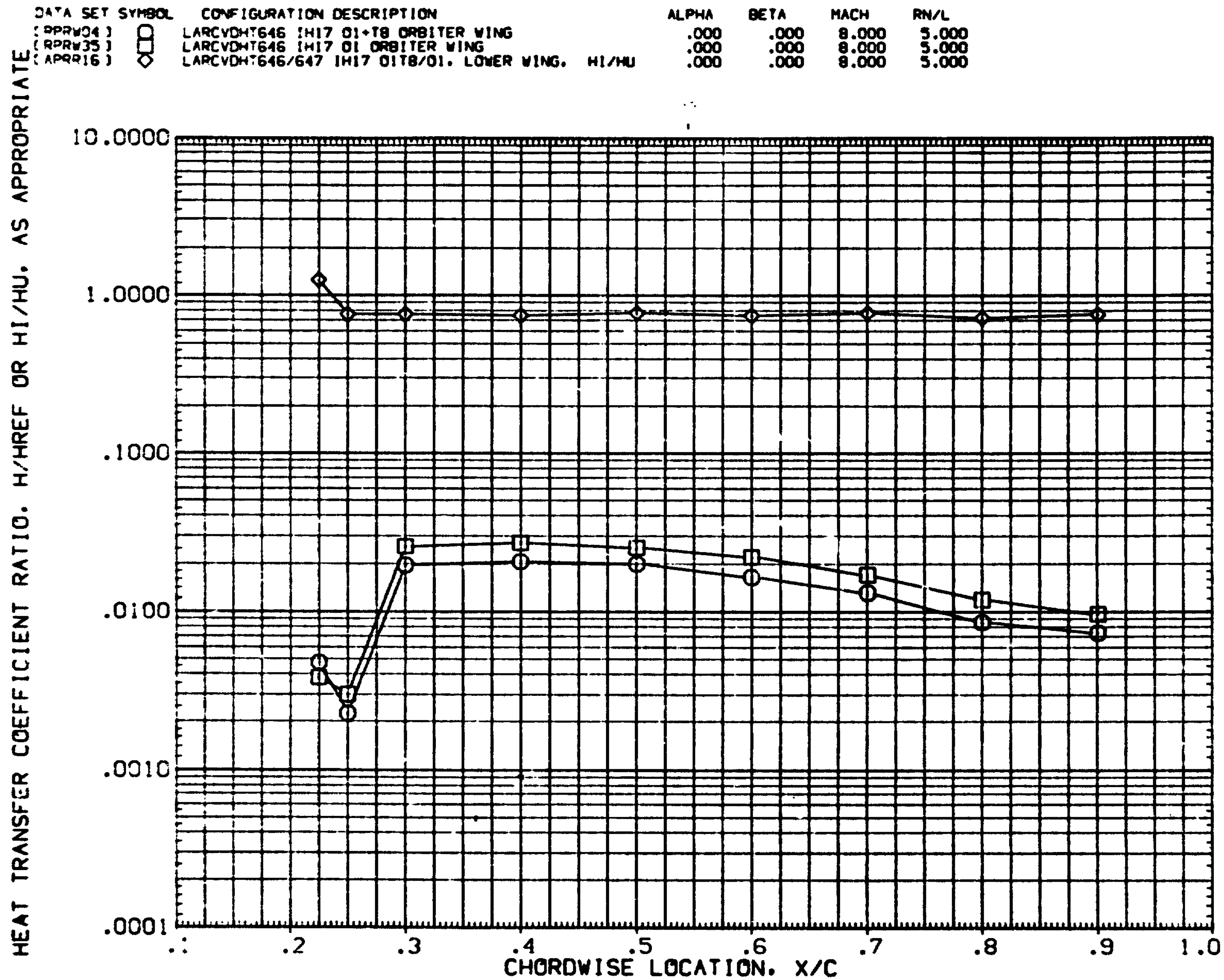


FIG. 19 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 2Y/B = .400

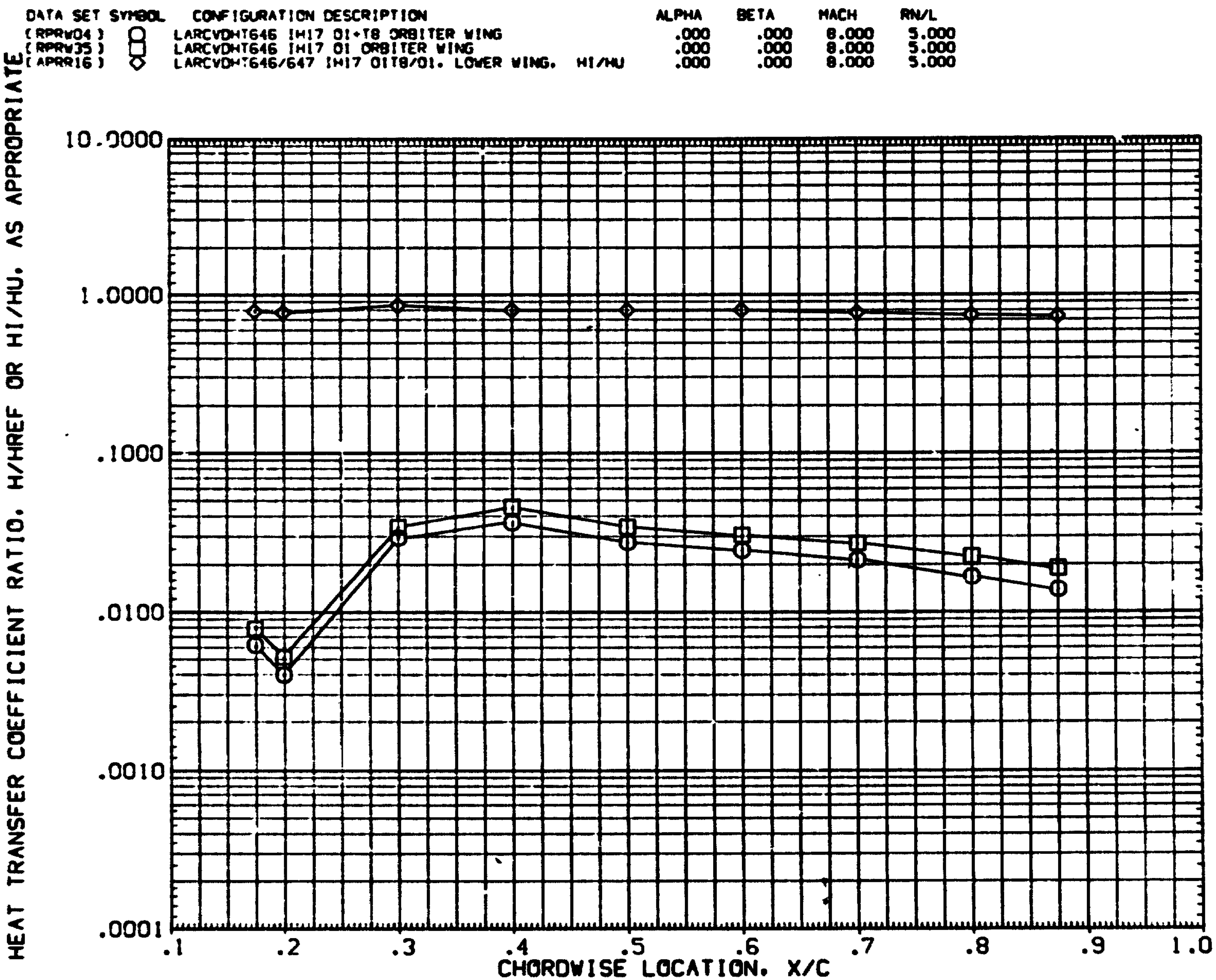


FIG. 19 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 2Y/B = .600

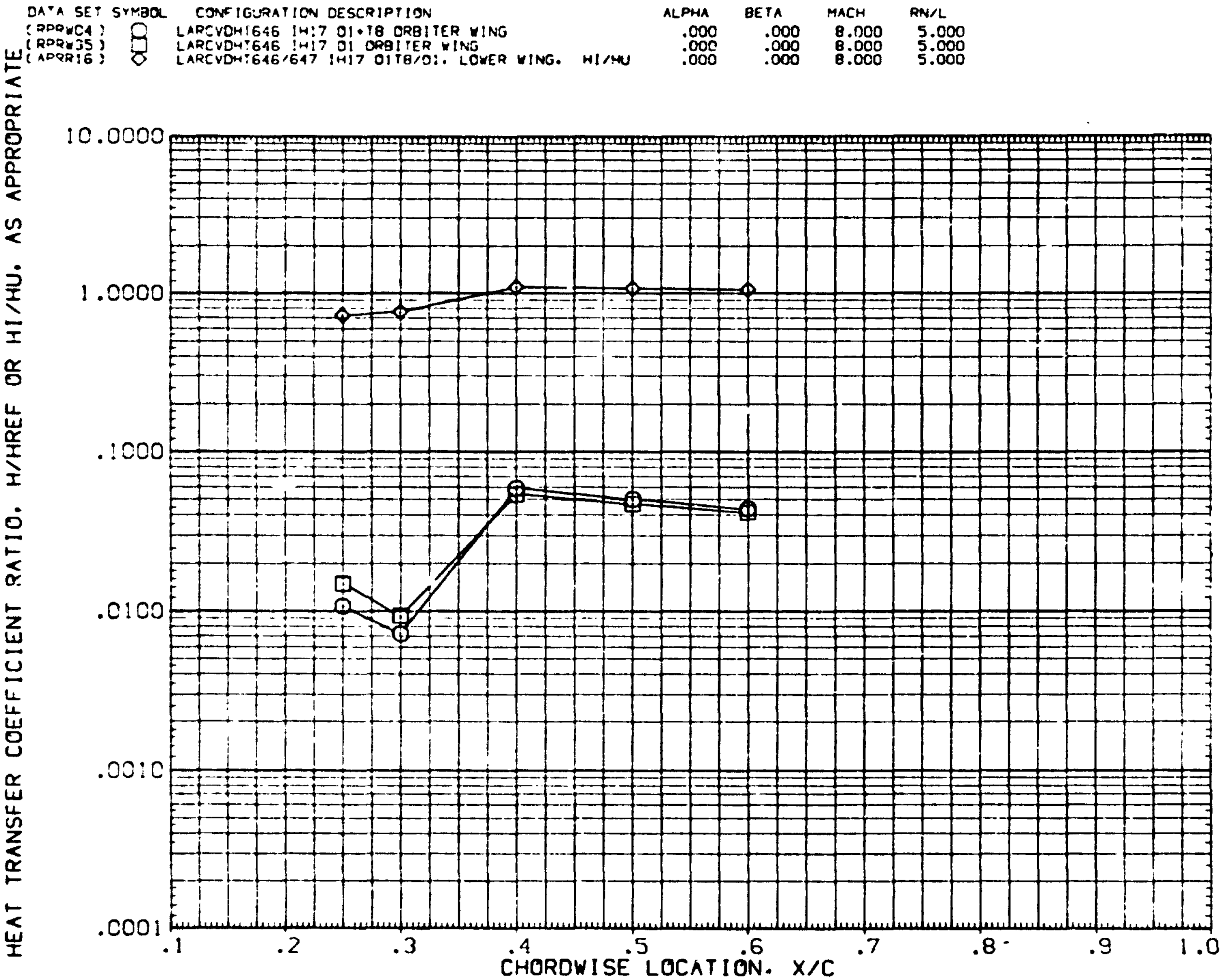


FIG. 19 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 2Y/B = .800

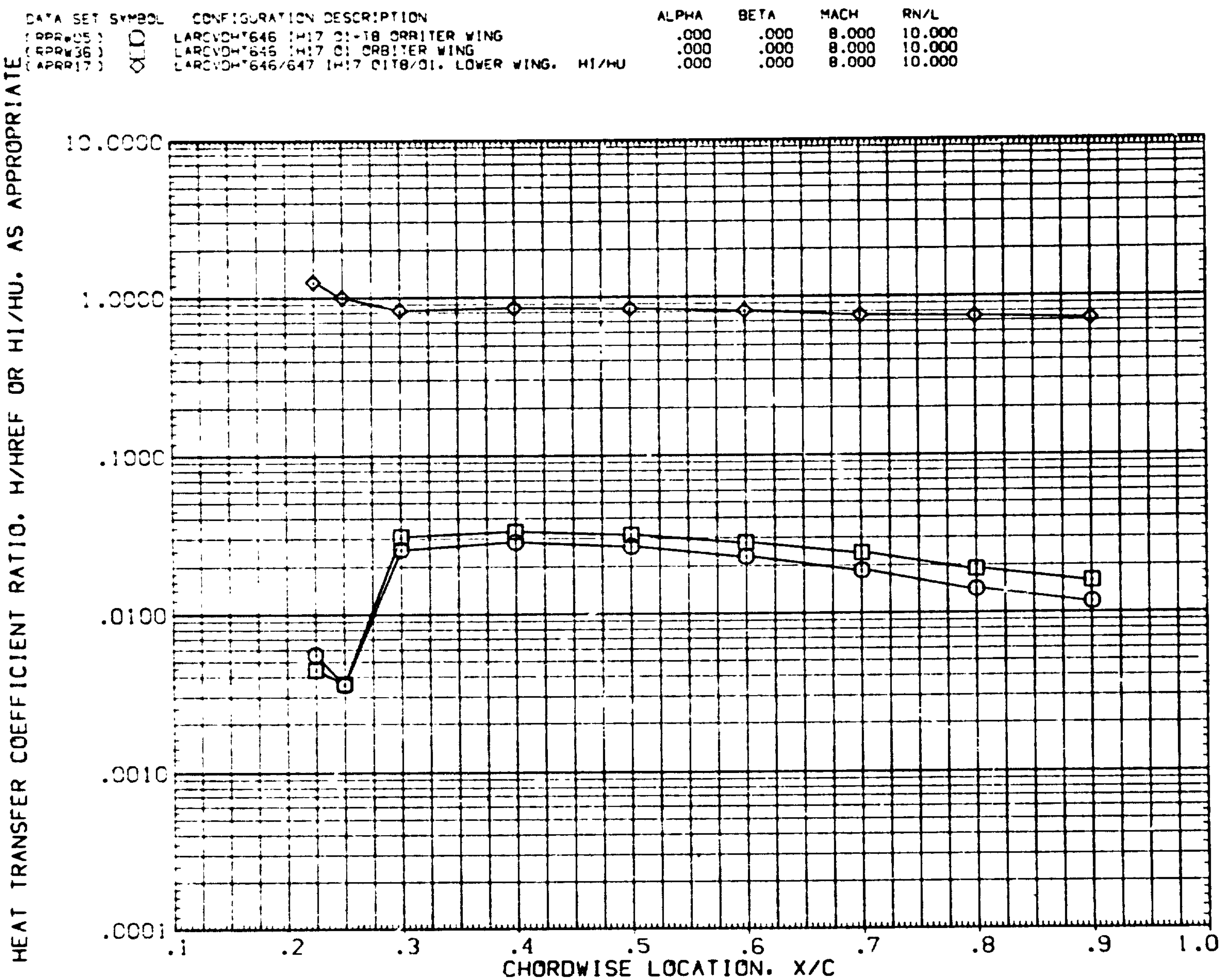


FIG. 20 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 2Y/B = .400

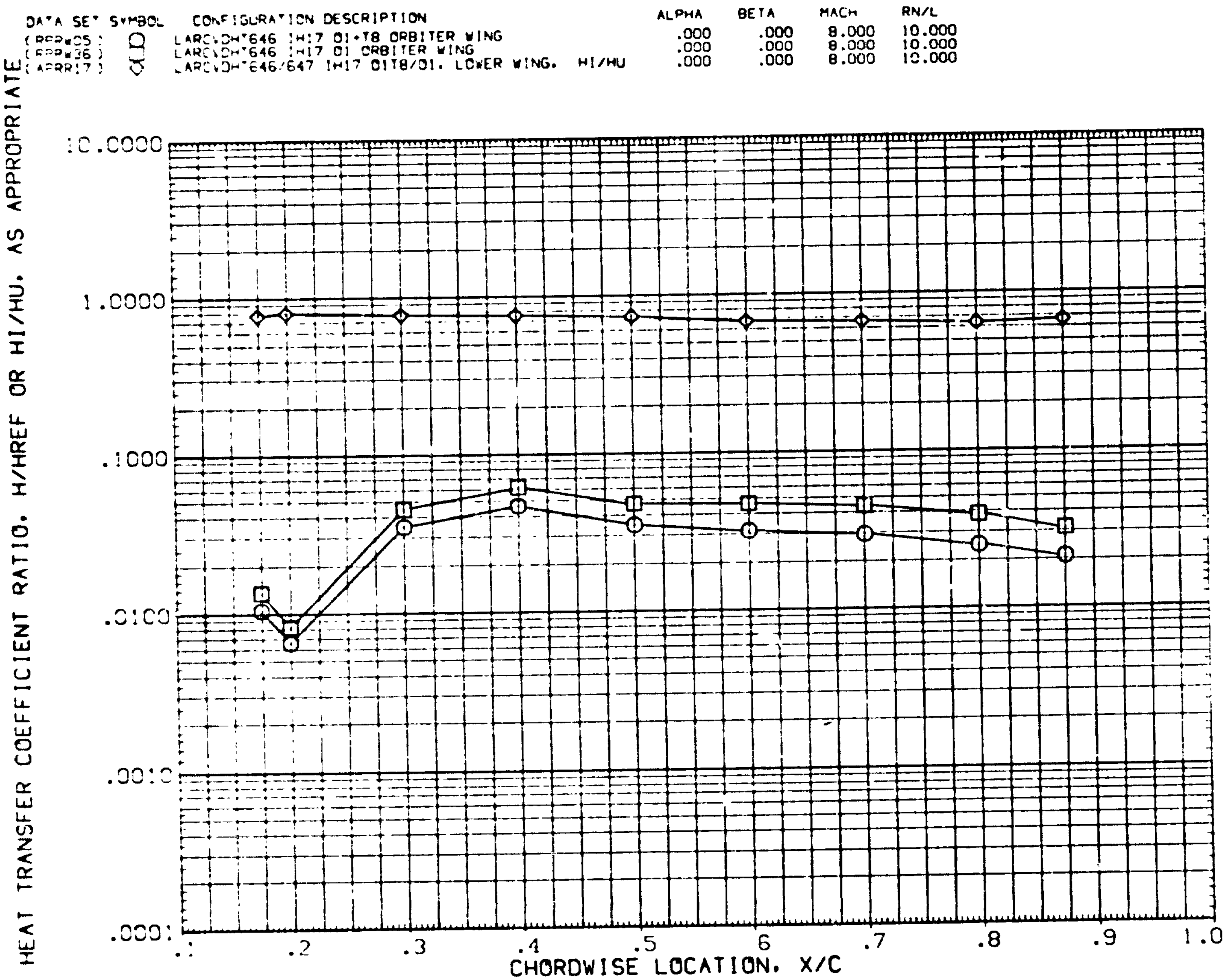


FIG. 20 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 2Y/B = .600

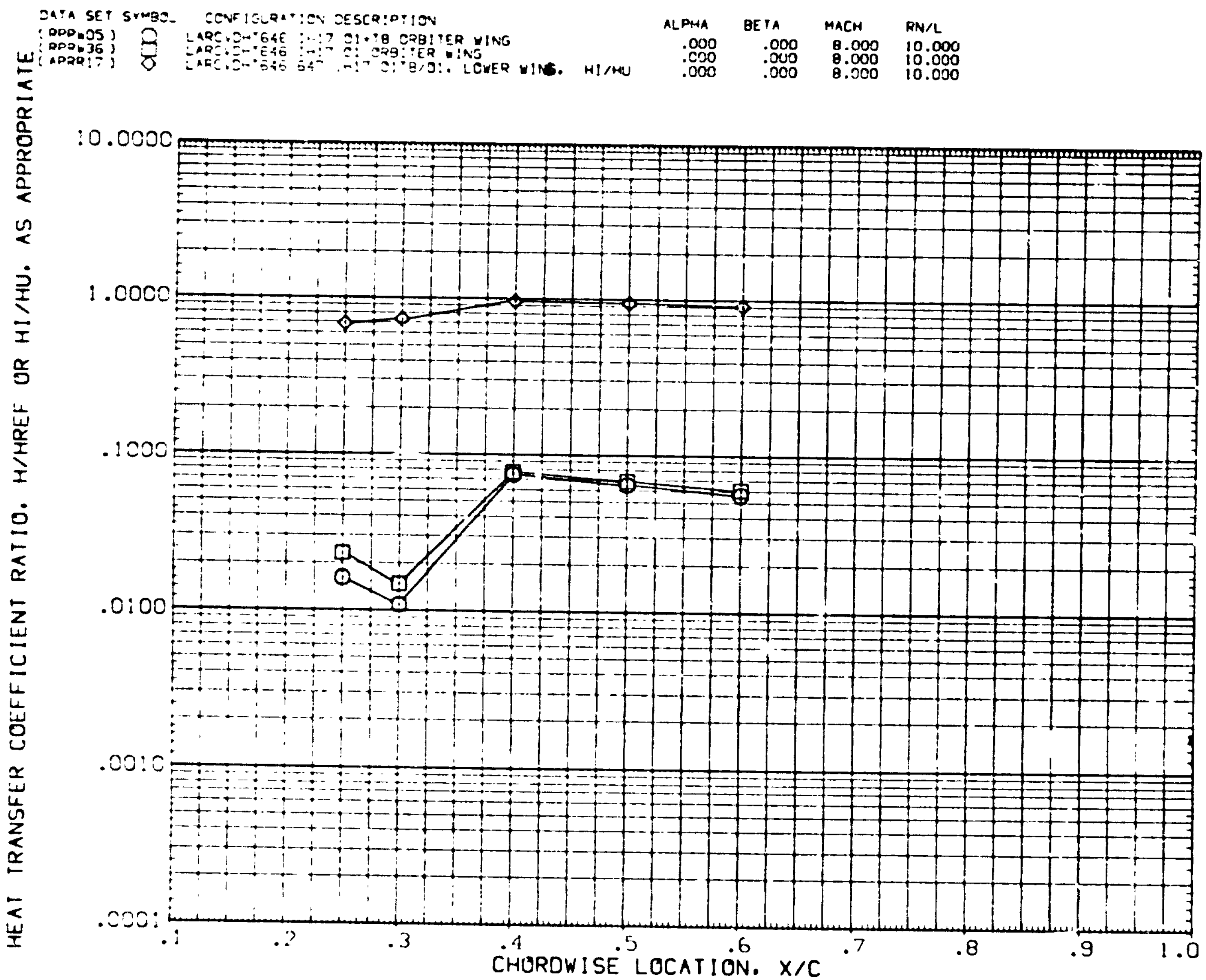


FIG. 20 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 2Y/B = .800

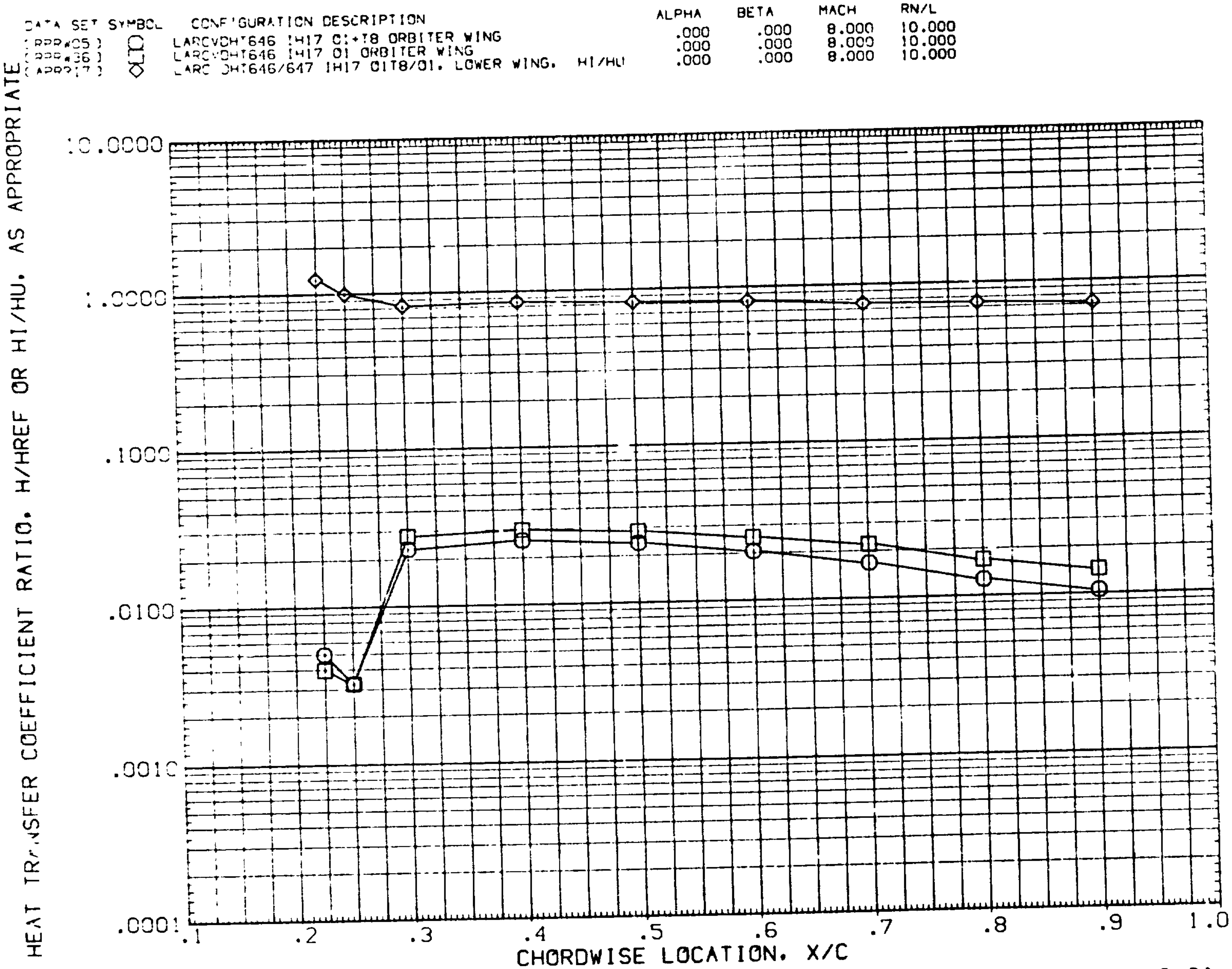


FIG. 20 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 2Y/B = .400

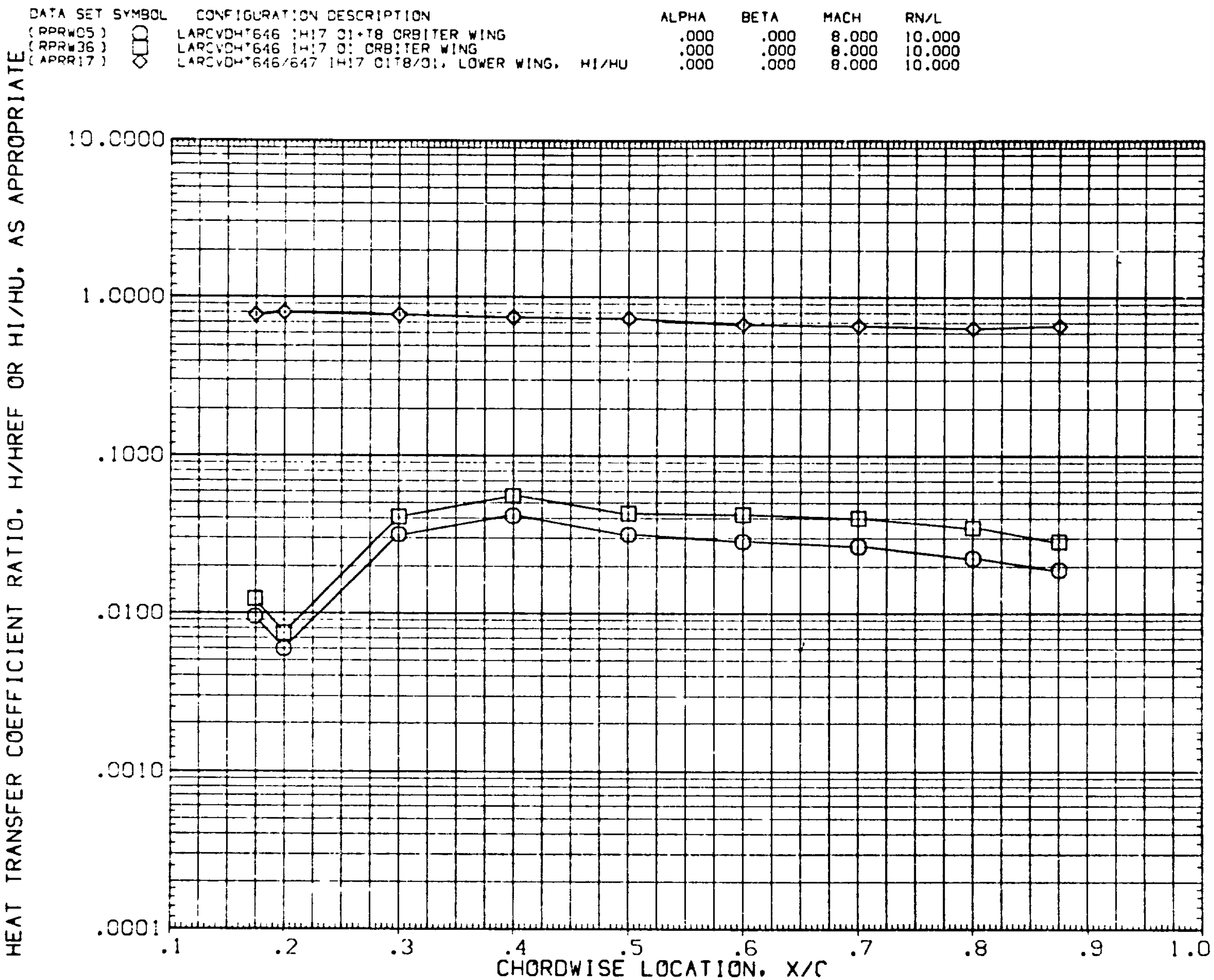


FIG. 20 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 2Y/B = .600

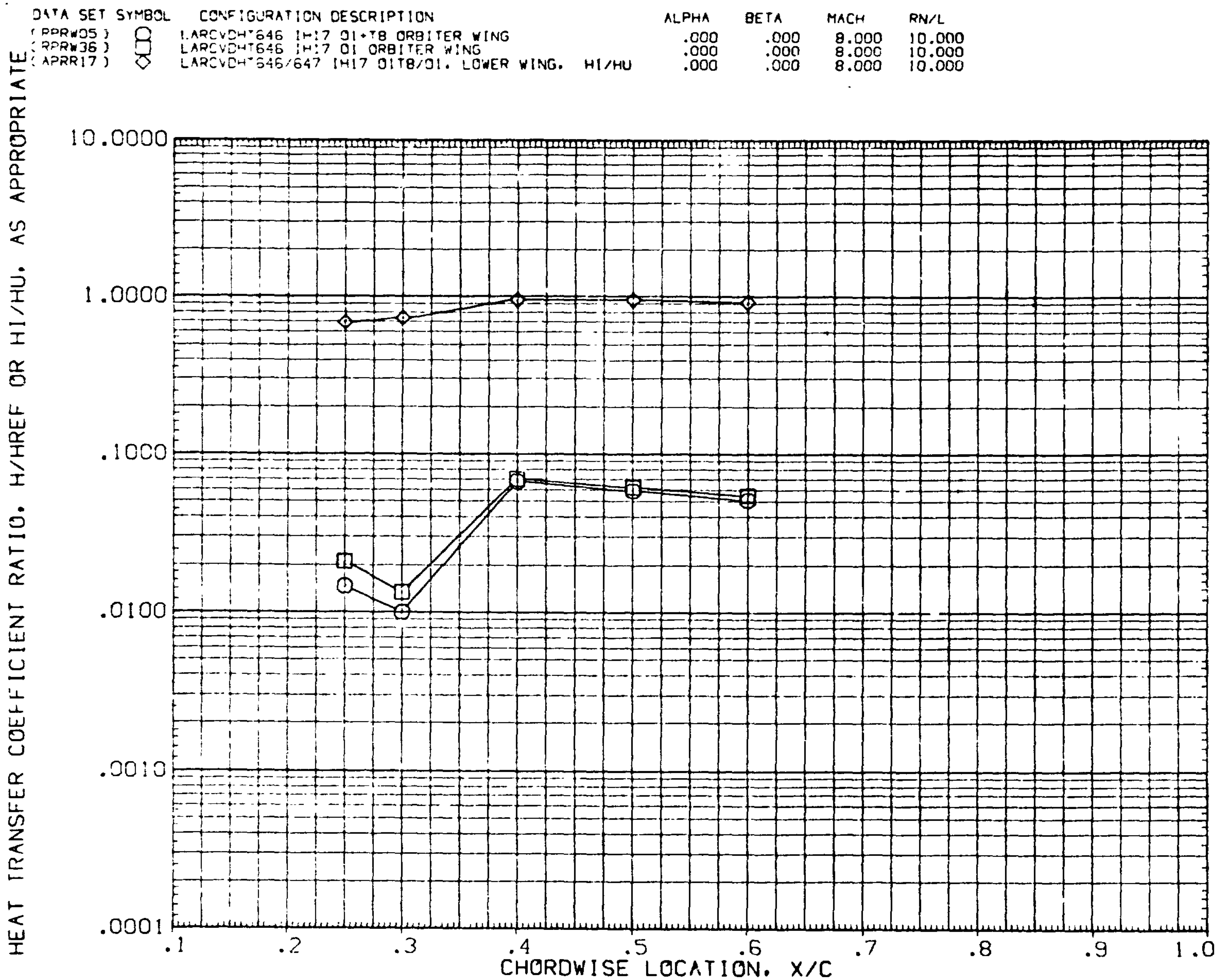


FIG. 20 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 2Y/B = .800

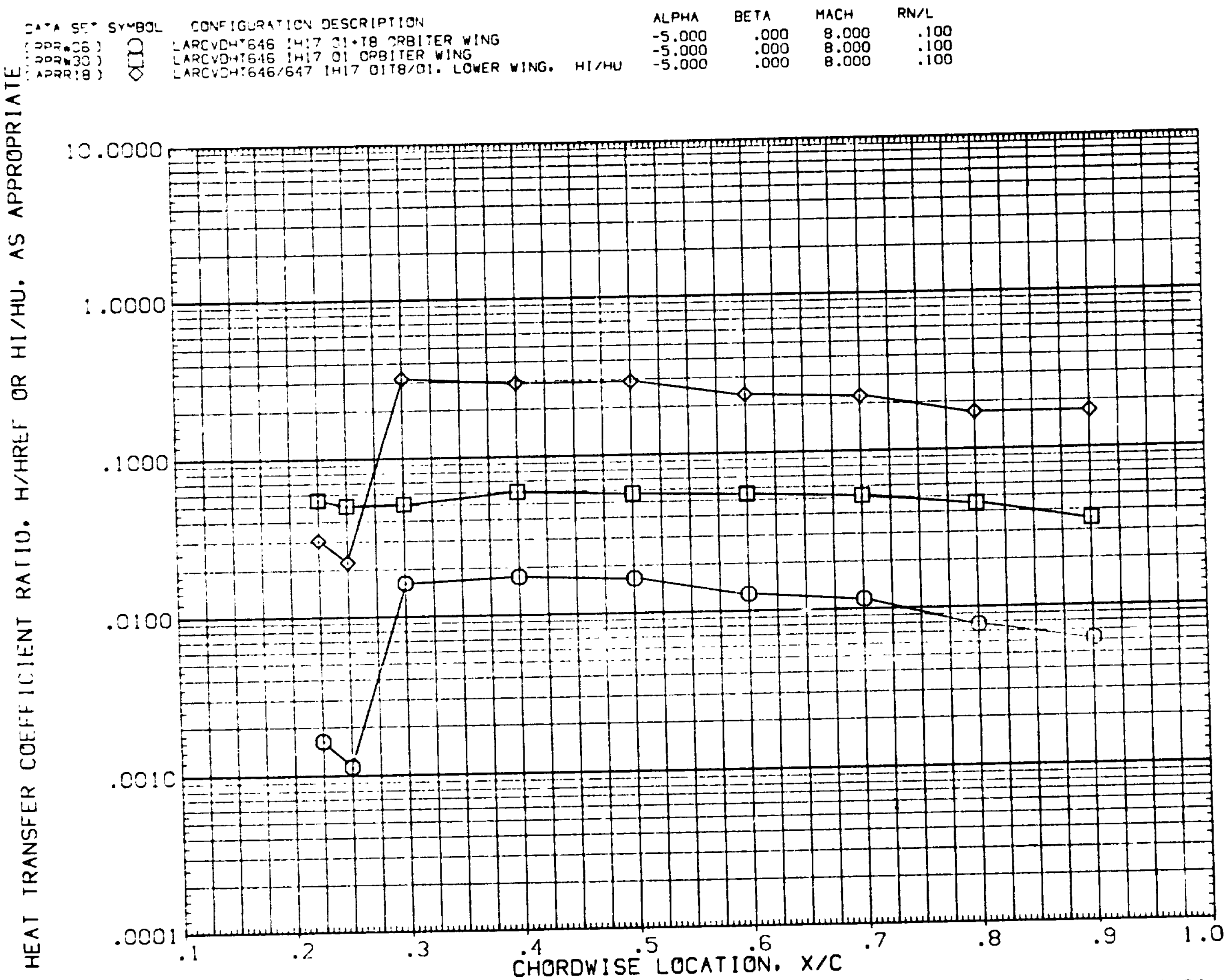


FIG. 21 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.1., ALPHA=-5.0)

RN/L = .100 HAW/HT= .850 2Y/B = .400

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(RPR.06)	○	LARCVDHT646 IH17 O1+T8 ORBITER WING	-5.000	.000	8.000	.100
(RPR.30)	□	LARCVDHT646 IH17 O1 ORBITER WING	-5.000	.000	8.000	.100
(APRR18)	◇	LARCVDHT646/647 IH17 O1T8/O1. LOWER WING. HI/HU	-5.000	.000	8.000	.100

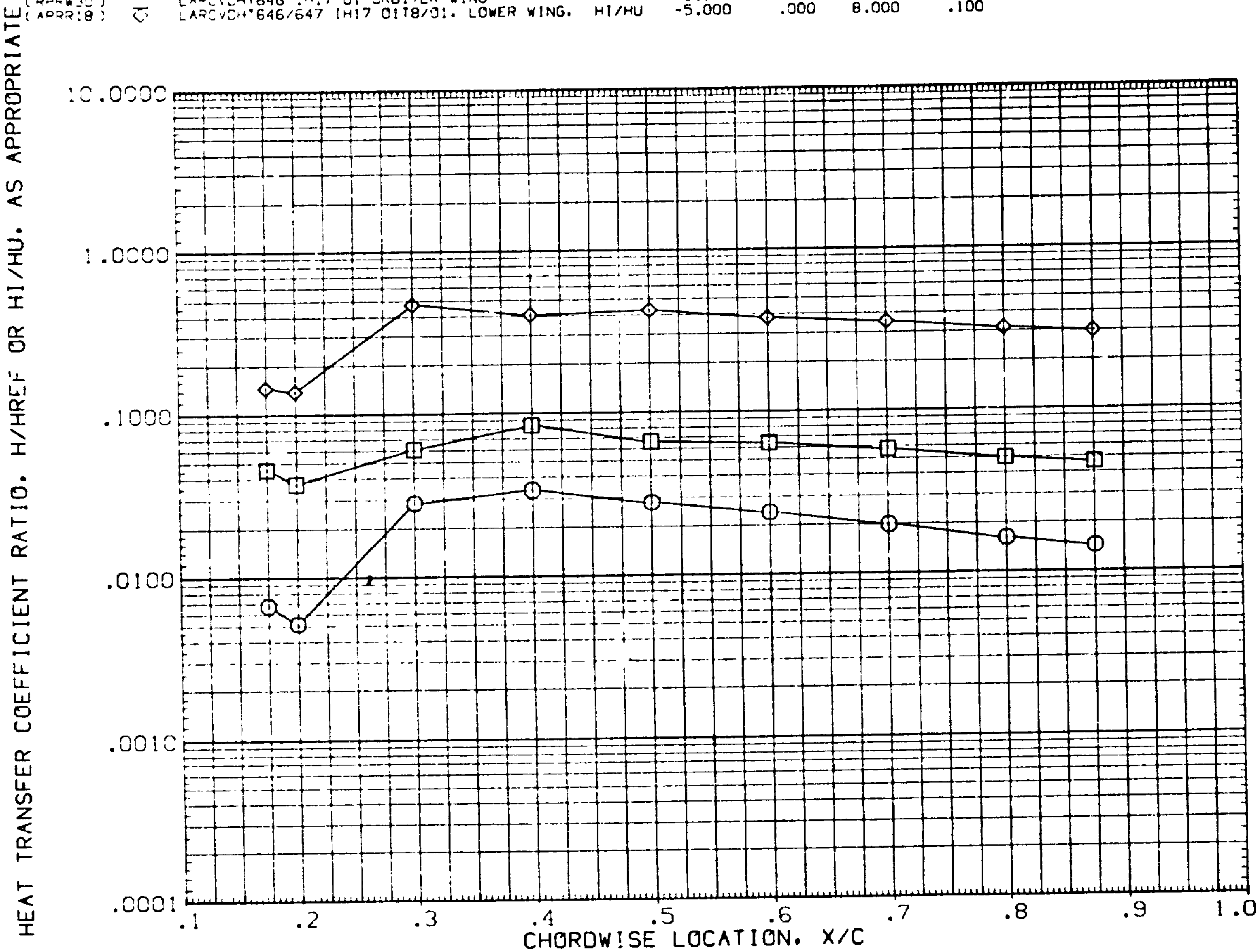


FIG. 21 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.1., ALPHA=-5.0)

RN/L = .100 HAW/HT = .850 2Y/B = .600

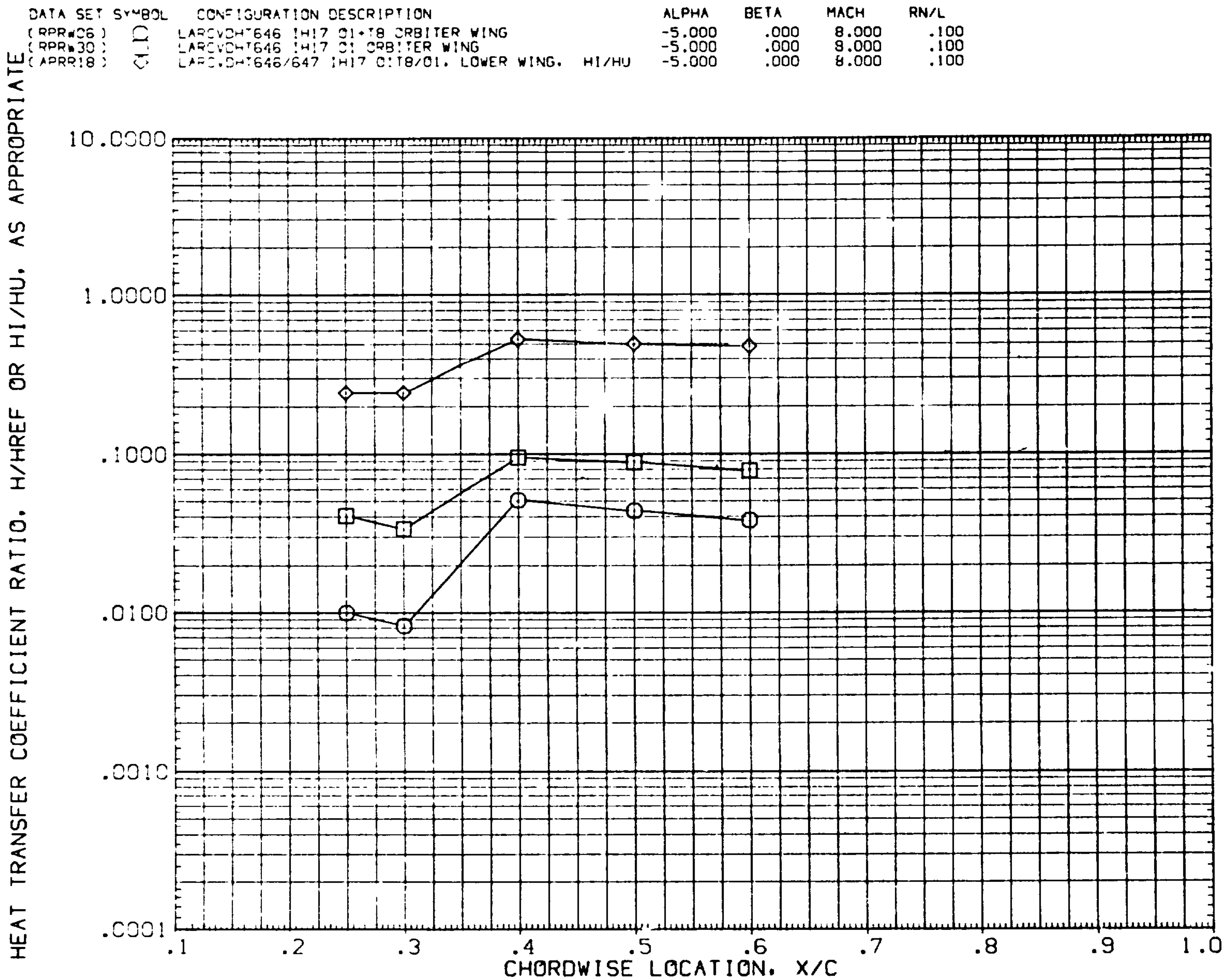


FIG. 21 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.1., ALPHA=-5.0)

RN/L = .100 HAW/HT= .850 2Y/B = .800

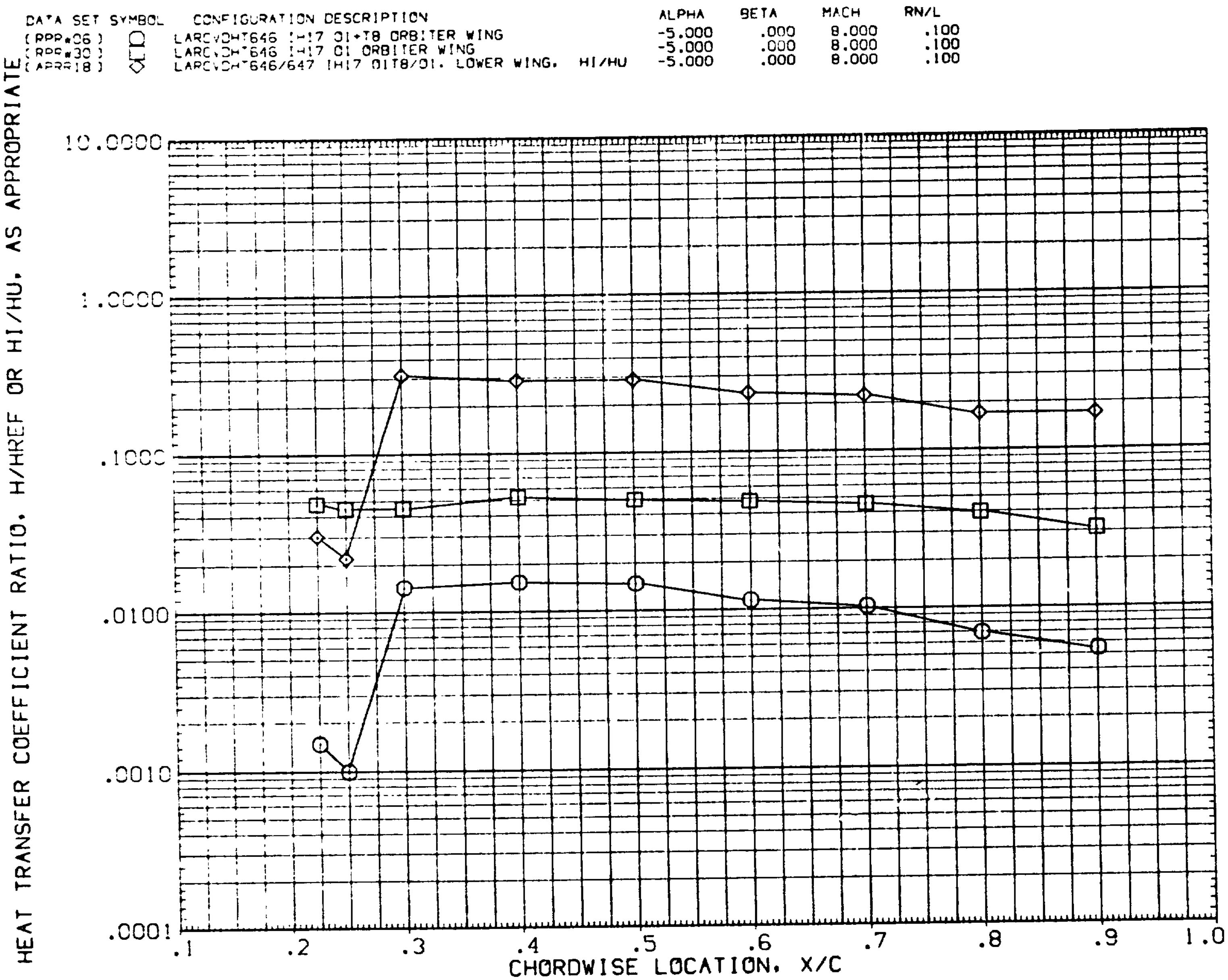


FIG. 21 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.1., ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 2Y/B = .400

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(RPRW06)	○	LARCVDHT646 IH17 O1+T8 ORBITER WING	-5.000	.000	8.000	.100
(RPRW30)	□	LARCVDHT646 IH17 O1 ORBITER WING	-5.000	.000	8.000	.100
(APRR18)	◇	LARCVDHT646/647 IH17 O1T8/O1. LOWER WING. HI/HU	-5.000	.000	8.000	.100

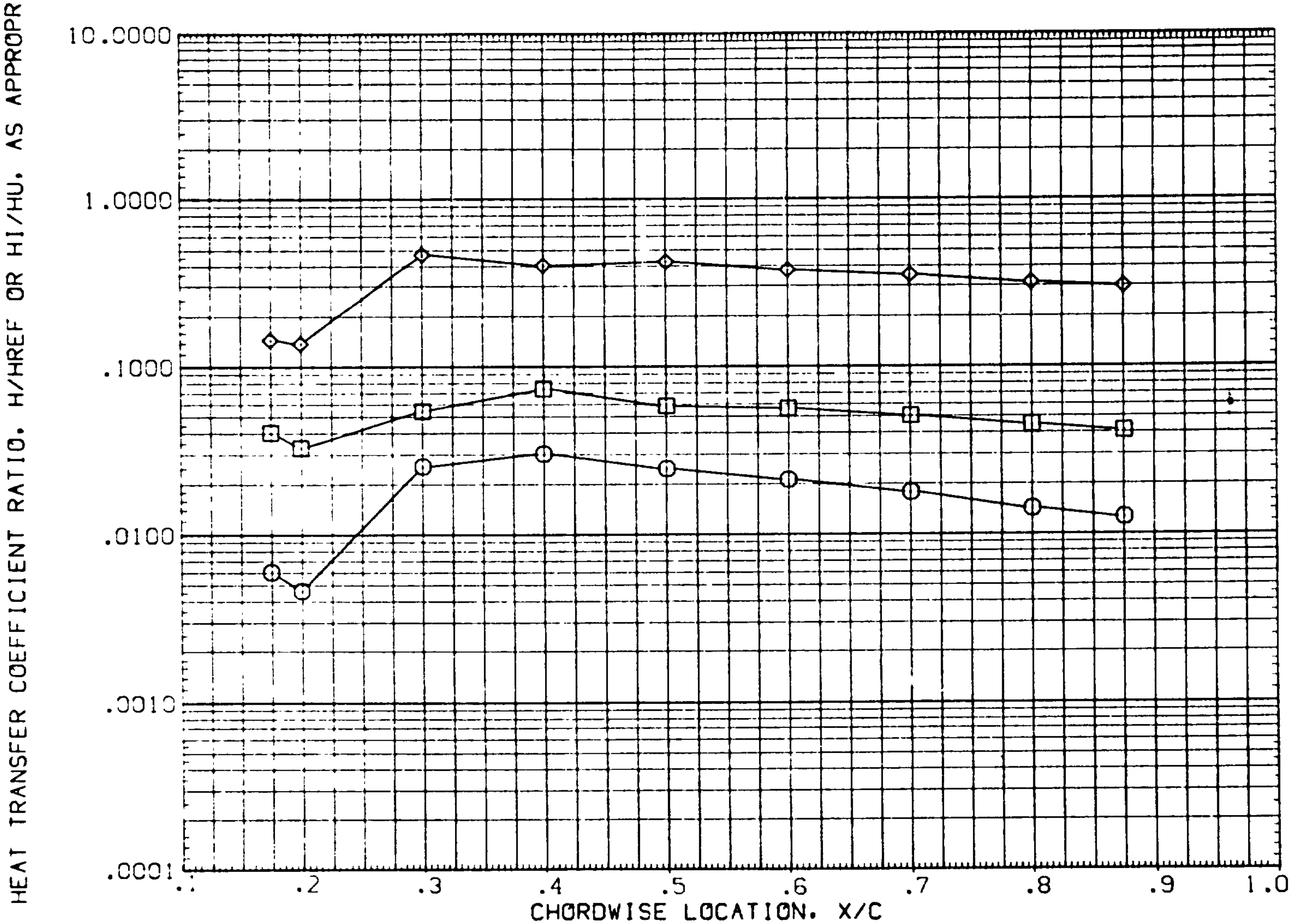


FIG. 21 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.1., ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 2Y/B = .600

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(RPR#06)	○	LARCVDHT646 IH17 O1+T8 ORBITER WING	-5.000	.000	8.000	.100
(RPR#30)	□	LARCVDHT646 IH17 O1 ORBITER WING	-5.000	.000	8.000	.100
(APPR18)	◇	LARCVDHT646/647 IH17 O1T8/O1. LOWER WING. HI/HU	-5.000	.000	8.000	.100

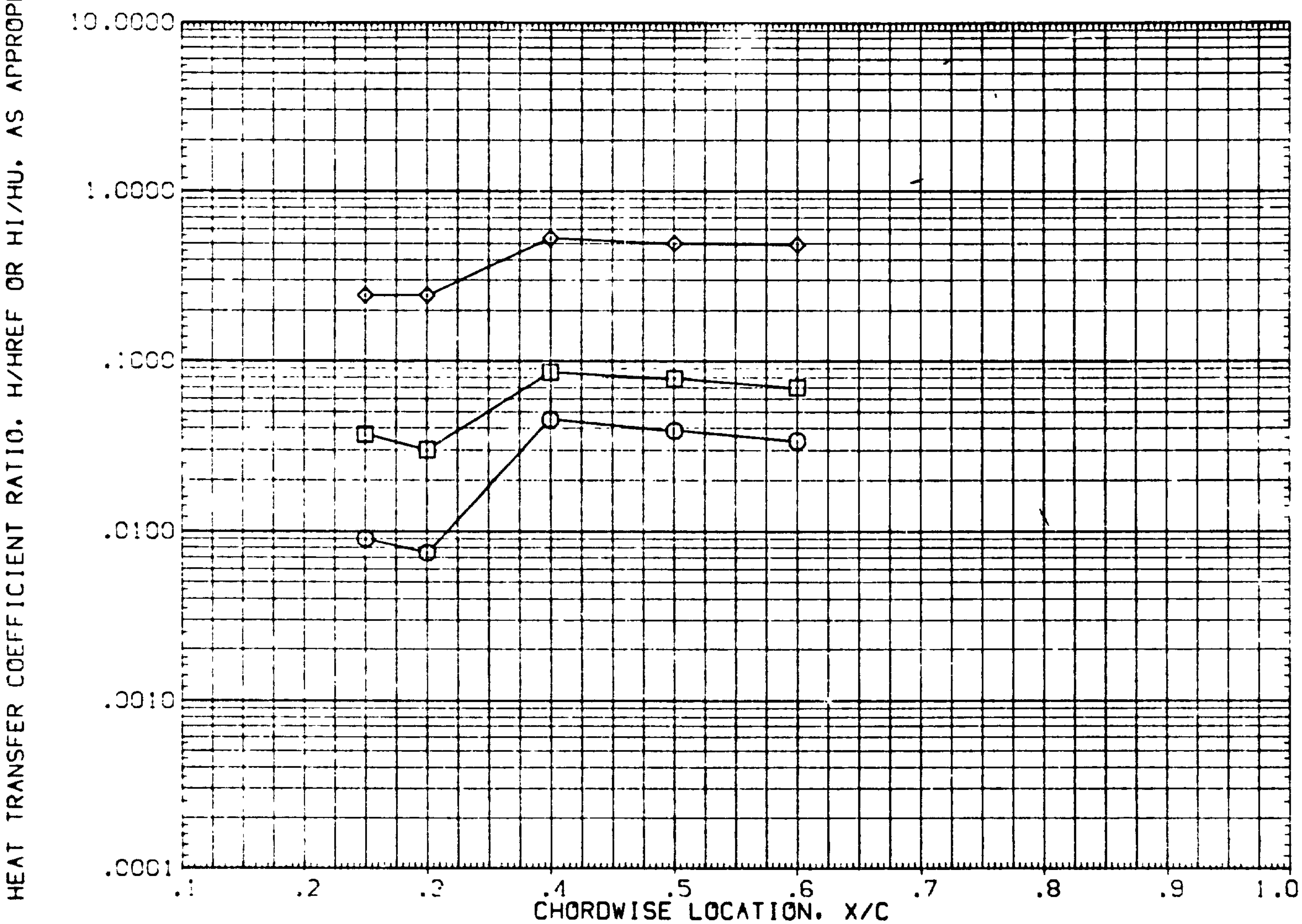


FIG. 21 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=0.1., ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 2Y/B = .800

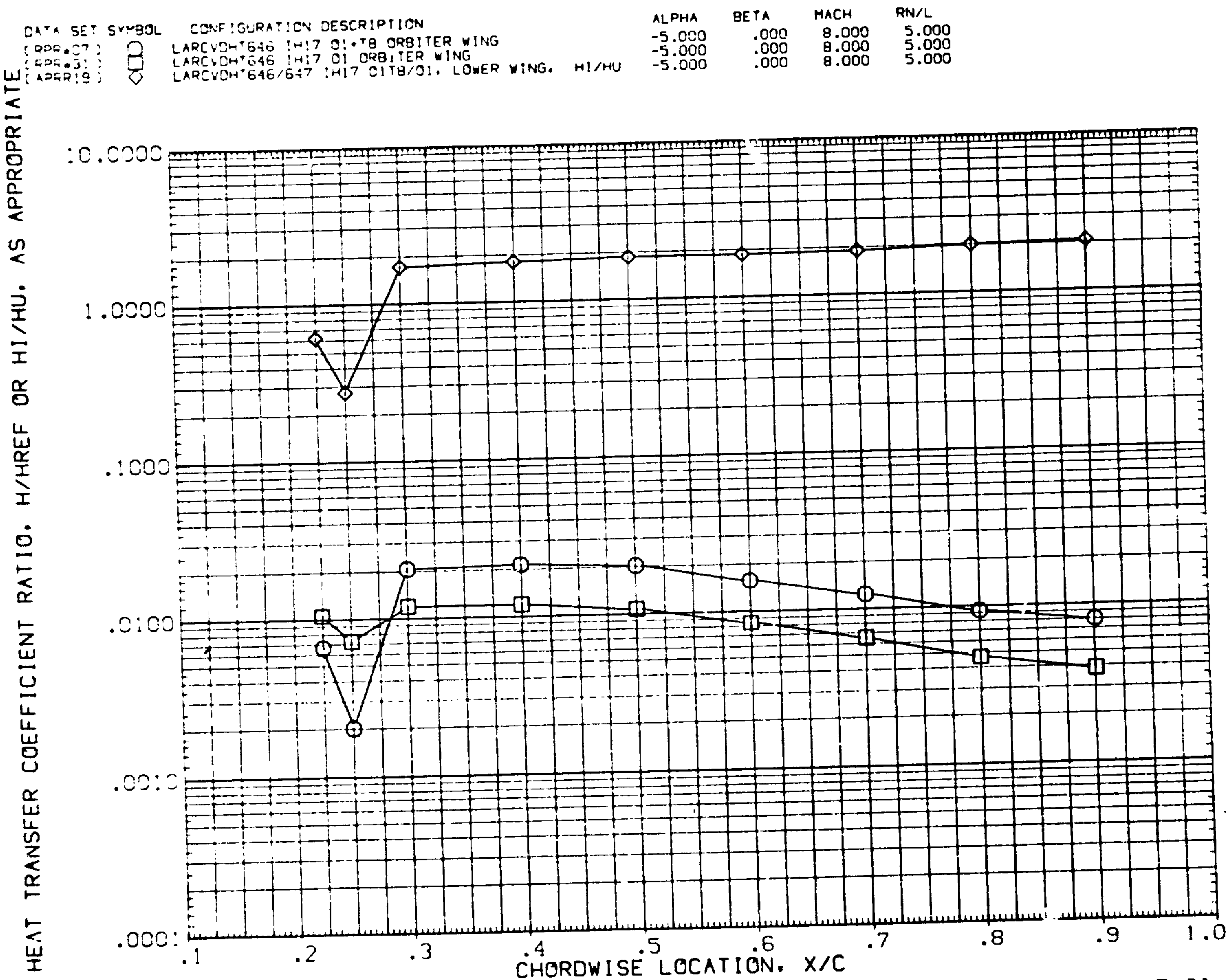


FIG. 22 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=5.0., ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .850 2Y/B = .400

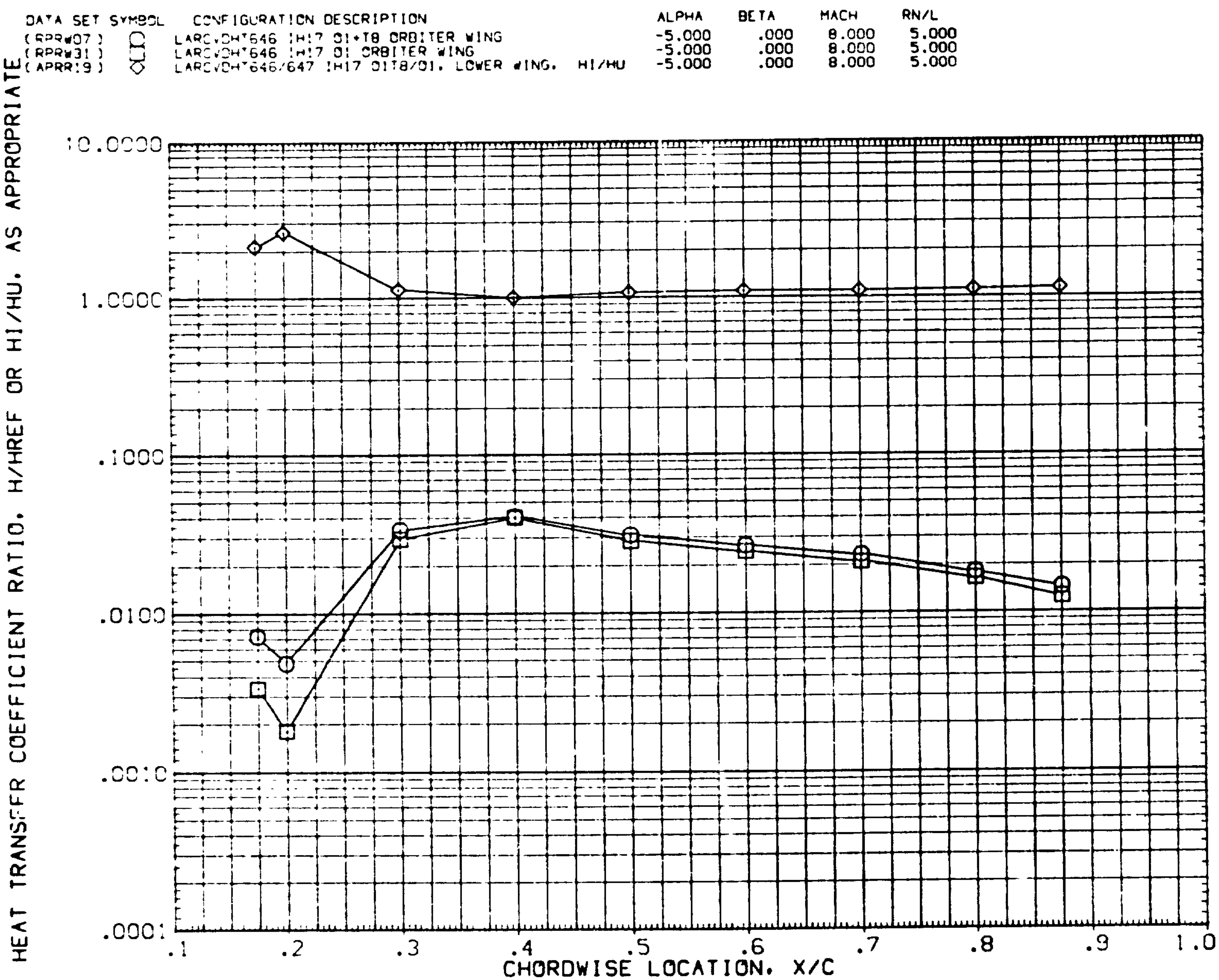


FIG. 22 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=5.0., ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .850 2Y/B = .600

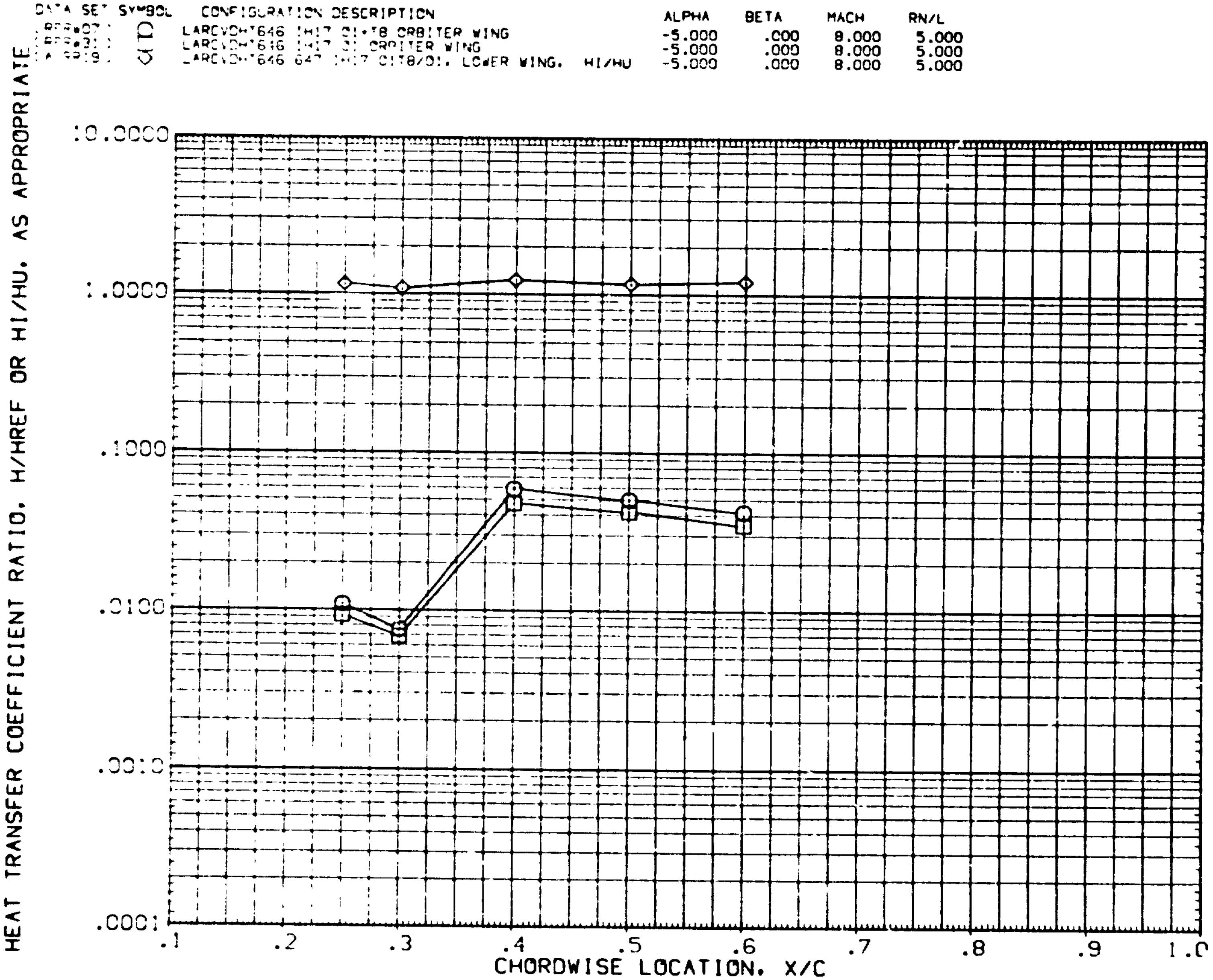


FIG. 22 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=5.0., ALPHA=-5.0)

RN/L = 5.000 HAW/HT = .850 2Y/B = .800

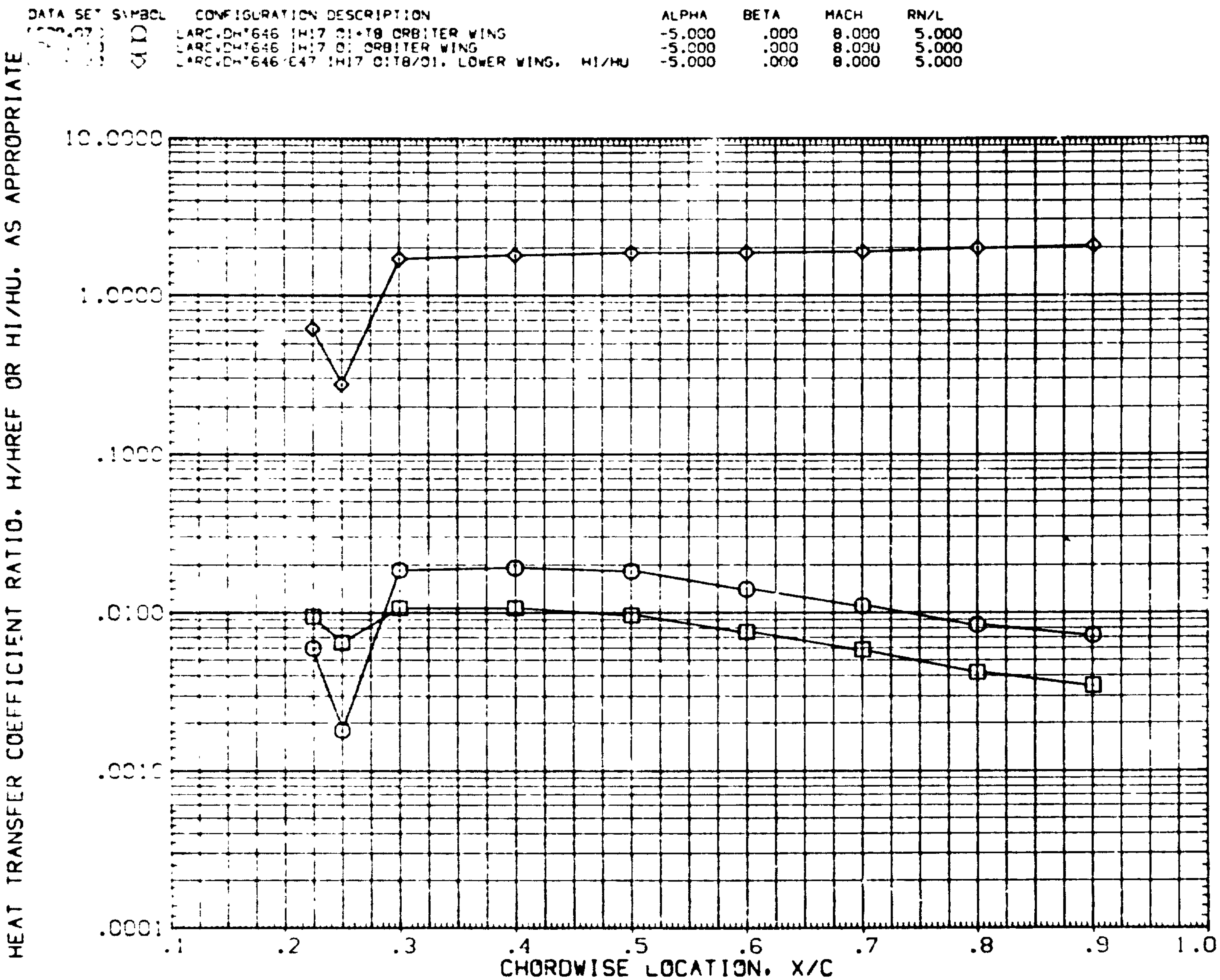


FIG. 22 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=5.0., ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .900 2Y/B = .400

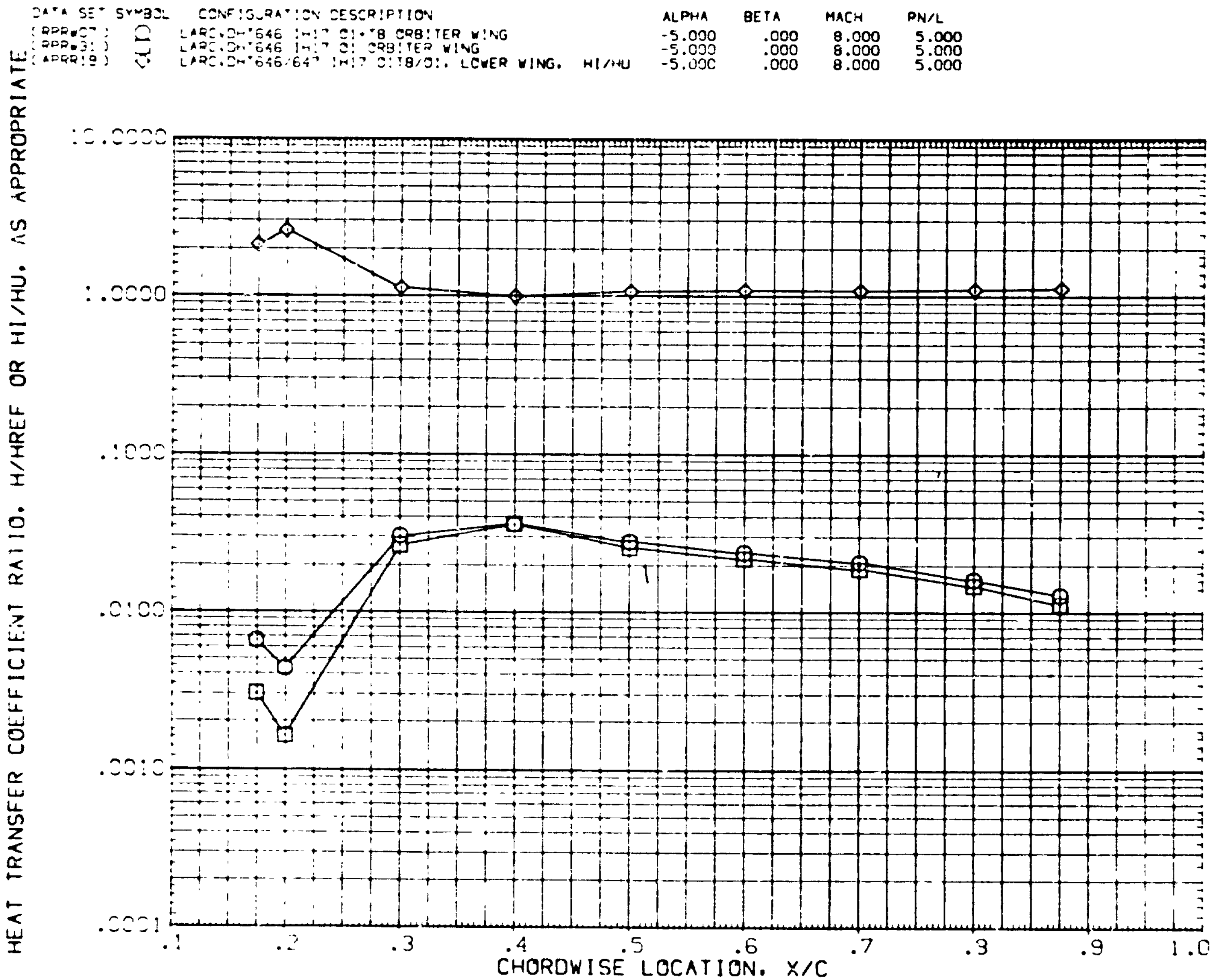


FIG. 22 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=5.0., ALPHA=-5.0)

RN/L = 5.000 HAW HT= .900 2Y/B = .600

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(RPR#07)	○	LARC/OHT646 IH17 C1+T8 ORBITER WING	-5.000	.000	8.000	5.000
(RPR#31)	□	LARC/OHT646 IH17 C1 ORBITER WING	-5.000	.000	8.000	5.000
(APRR19)	◇	LARC/OHT646/647 IH17 C1T8/01, LOWER WING. HI/HU	-5.000	.000	8.000	5.000

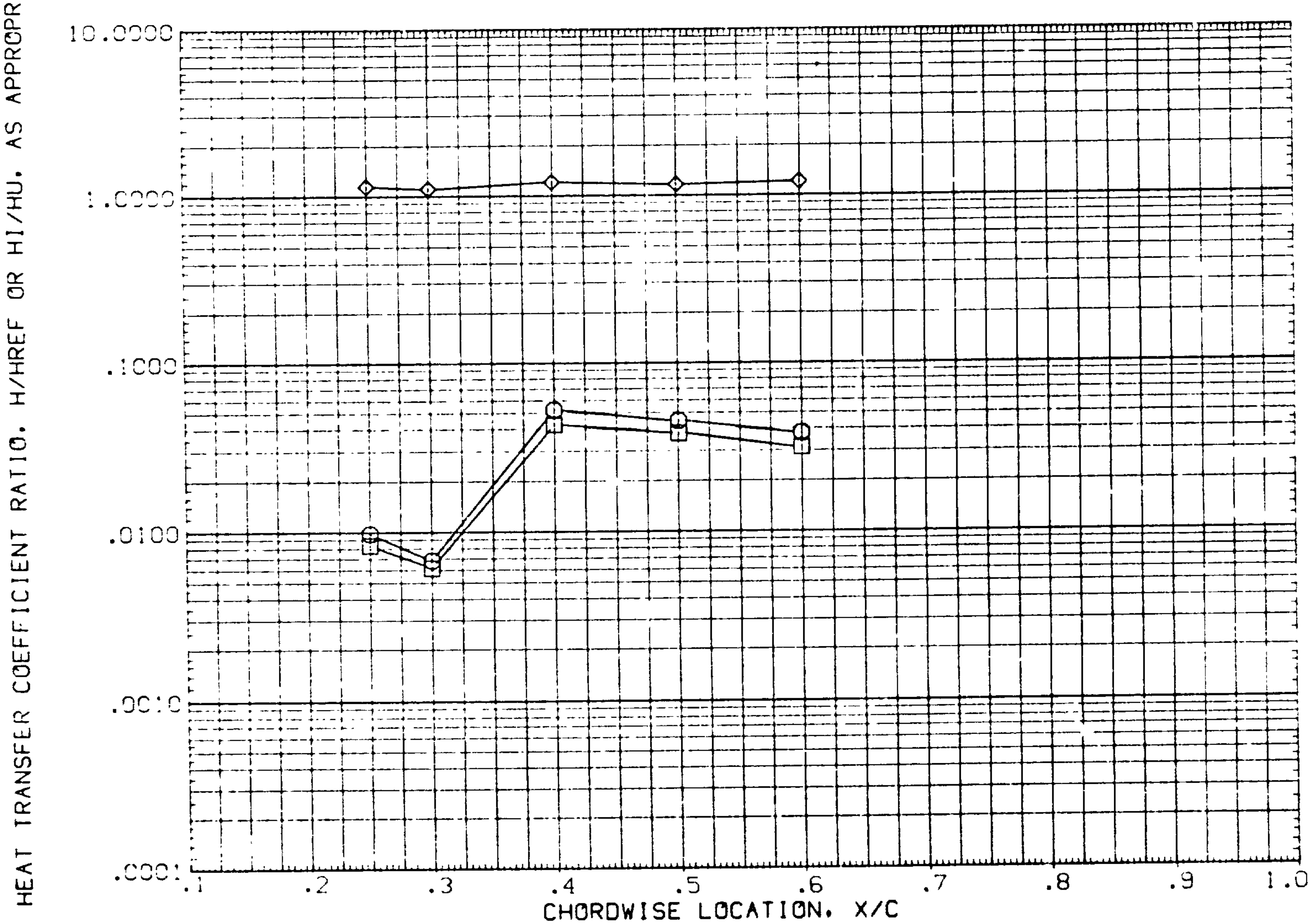


FIG. 22 EFFECT OF E.T. ON ORB. WING HEAT TRANSFER (RN/L=5.0., ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .900 2Y/B = .800

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(RPRW08)	○	LARCVDHT646 IH17 O1+T8+X23 ORBITER WING	.000	.000	8.000	.100
(RPRW25)	□	LARCVDHT646 IH17 O1+X23 ORBITER WING	.000	.000	8.000	.100
(APRR20)	◇	LARCVDHT646/647 IH17 O1T8X23/O1X23.LWR WNG.HI/HU	.000	.000	8.000	.100

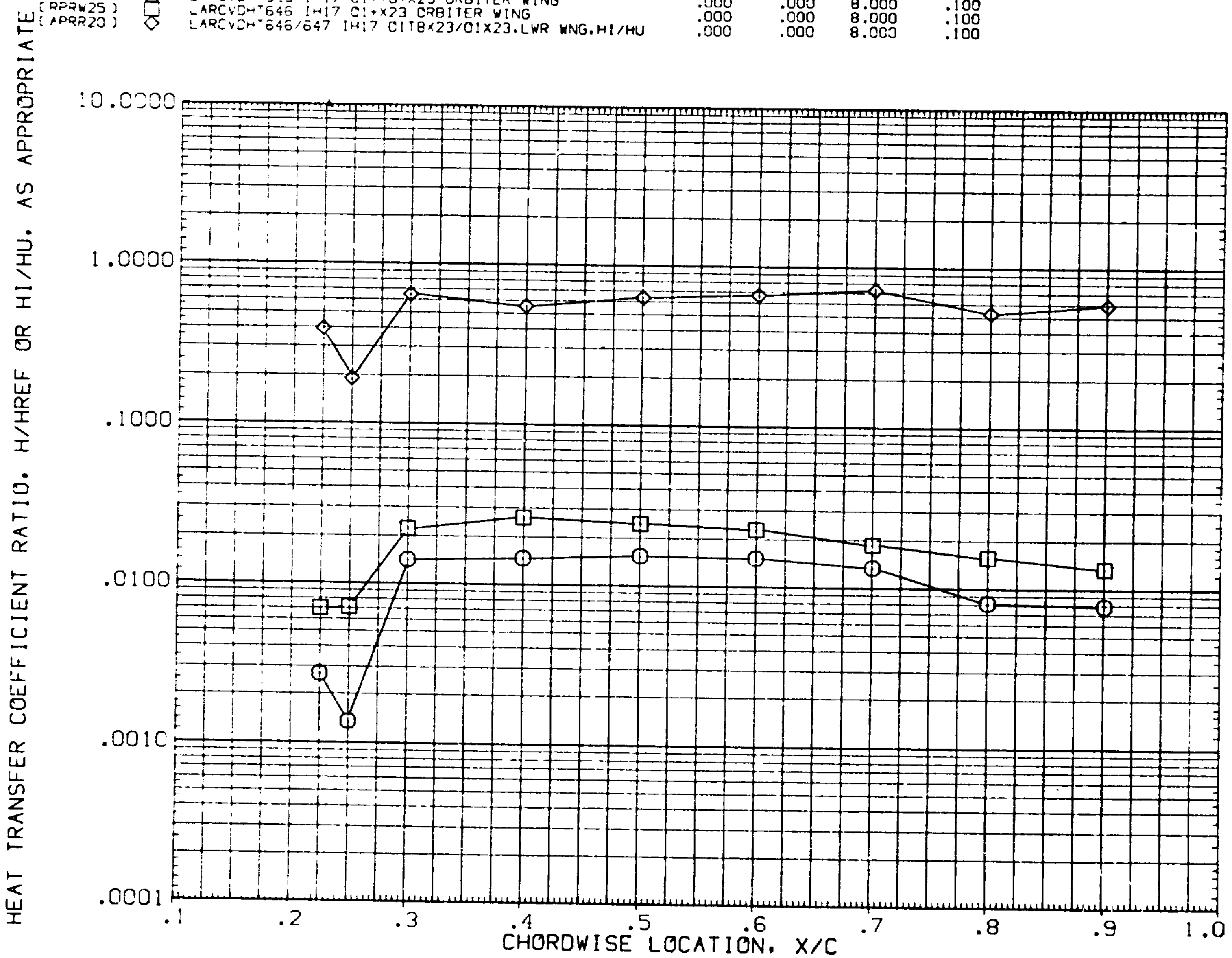


FIG. 23 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 2Y/B = .400

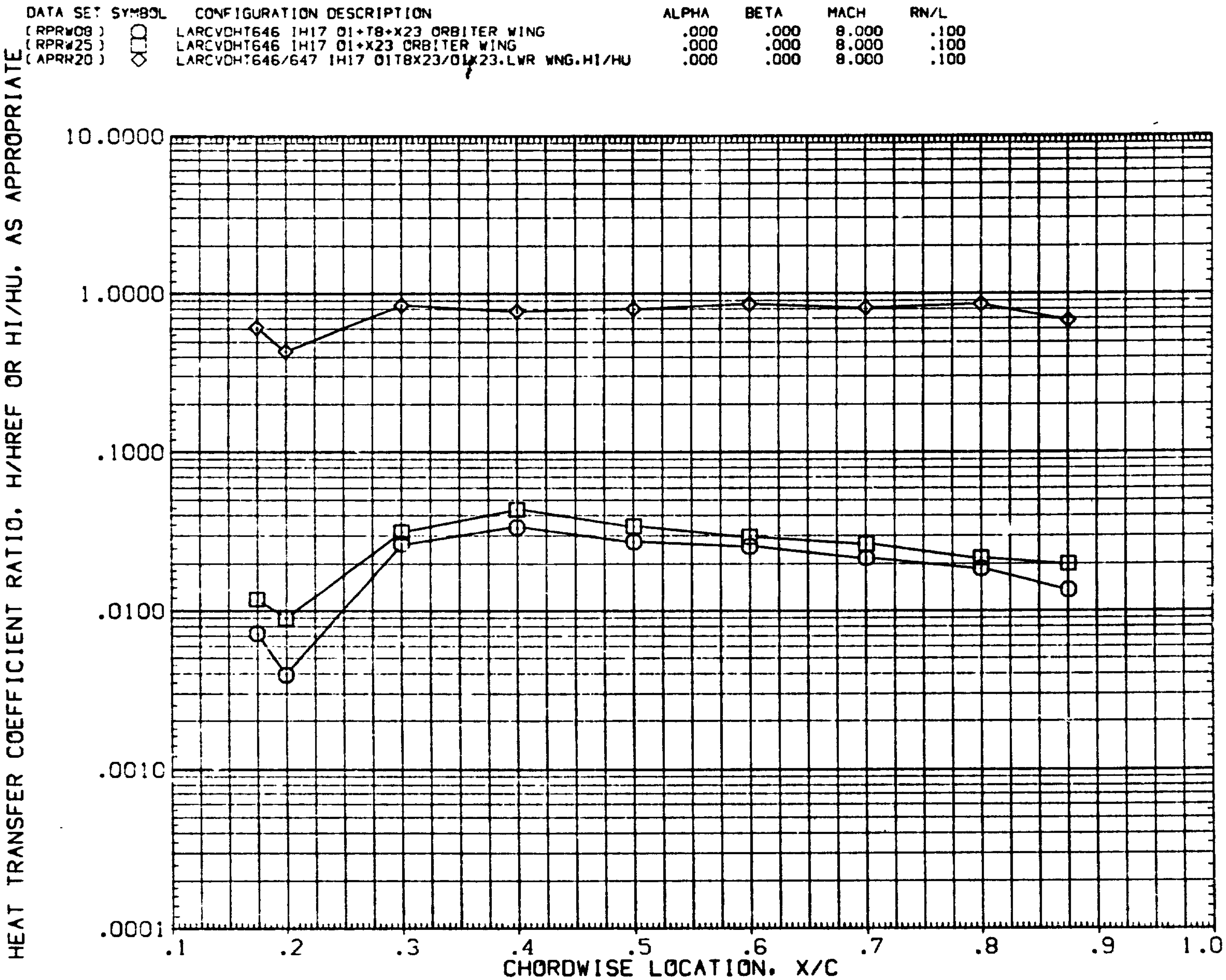


FIG. 23 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 2Y/B = .600

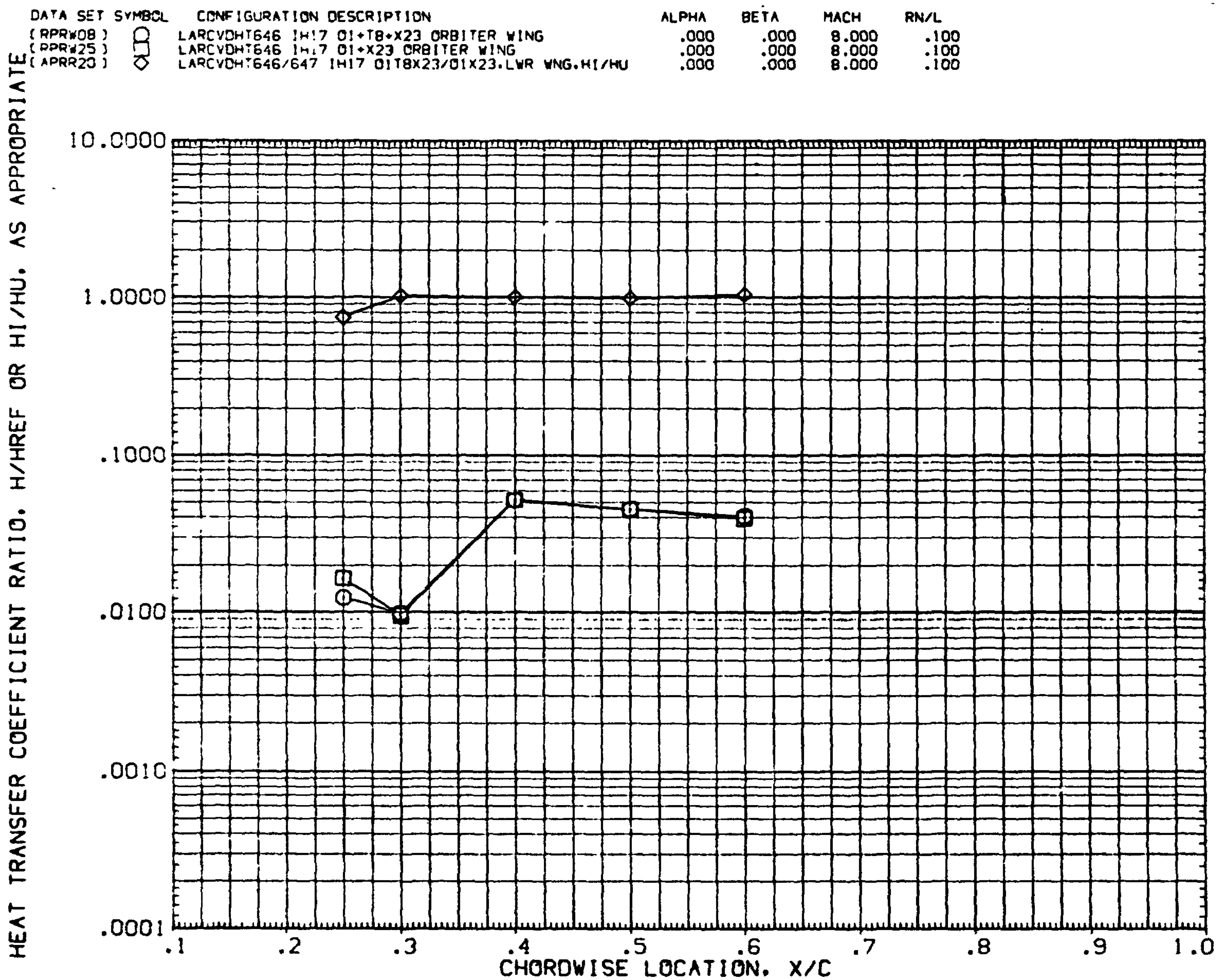


FIG. 23 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 2Y/B = .800

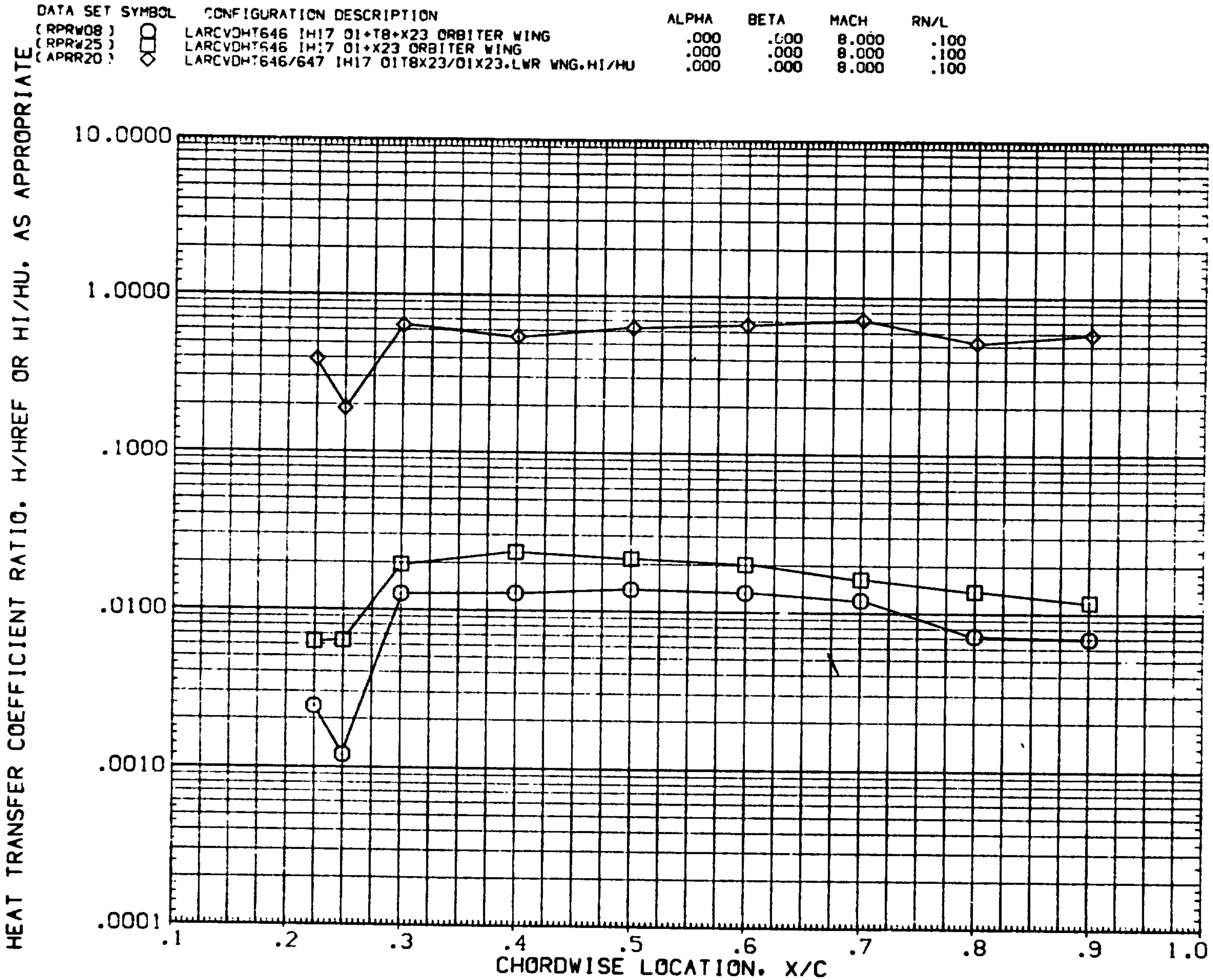


FIG. 23 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 2Y/B = .400

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(RPRW08)	○	LARCVDHT646 IH17 O1+T8+X23 ORBITER WING	.000	.000	8.000	.100
(RPRW25)	□	LARCVDHT646 IH17 O1+X23 ORBITER WING	.000	.000	8.000	.100
(APRR20)	◇	LARCVDHT646/647 IH17 O1T8X23/O1X23.LWR WNG.HI/HU	.000	.000	8.000	.100

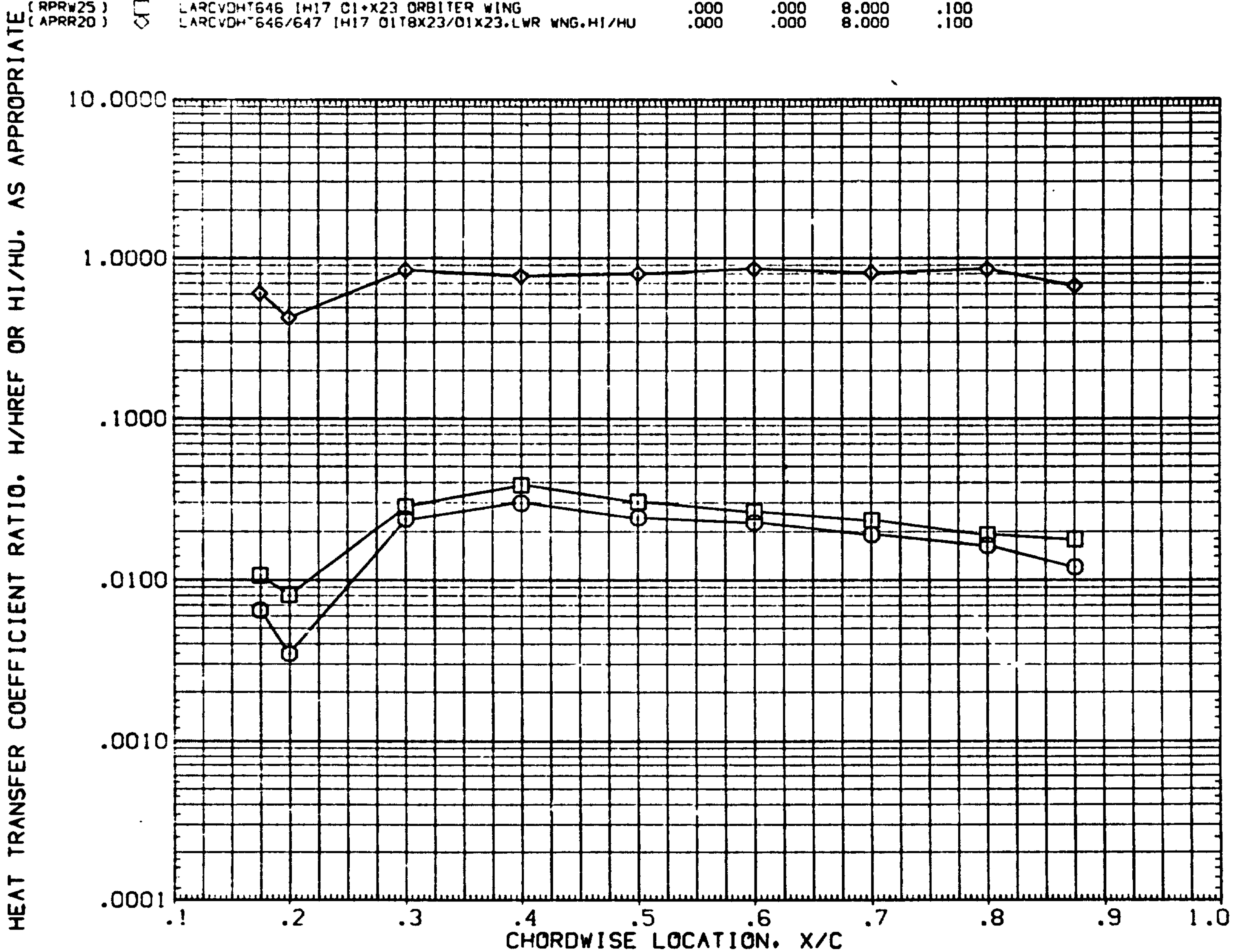


FIG. 23 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 2Y/B = .600

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(RPRW08)	○	LARCVDHT646 IH17 O1+T8+X23 ORBITER WING	-.000	.000	8.000	.100
(RPRW25)	□	LARCVDHT646 IH17 O1+X23 ORBITER WING	.000	.000	8.000	.100
(APRR20)	◇	LARCVDHT646/647 IH17 O1T8X23/O1X23.LWR WNG.HI/HU	.000	.000	8.000	.100

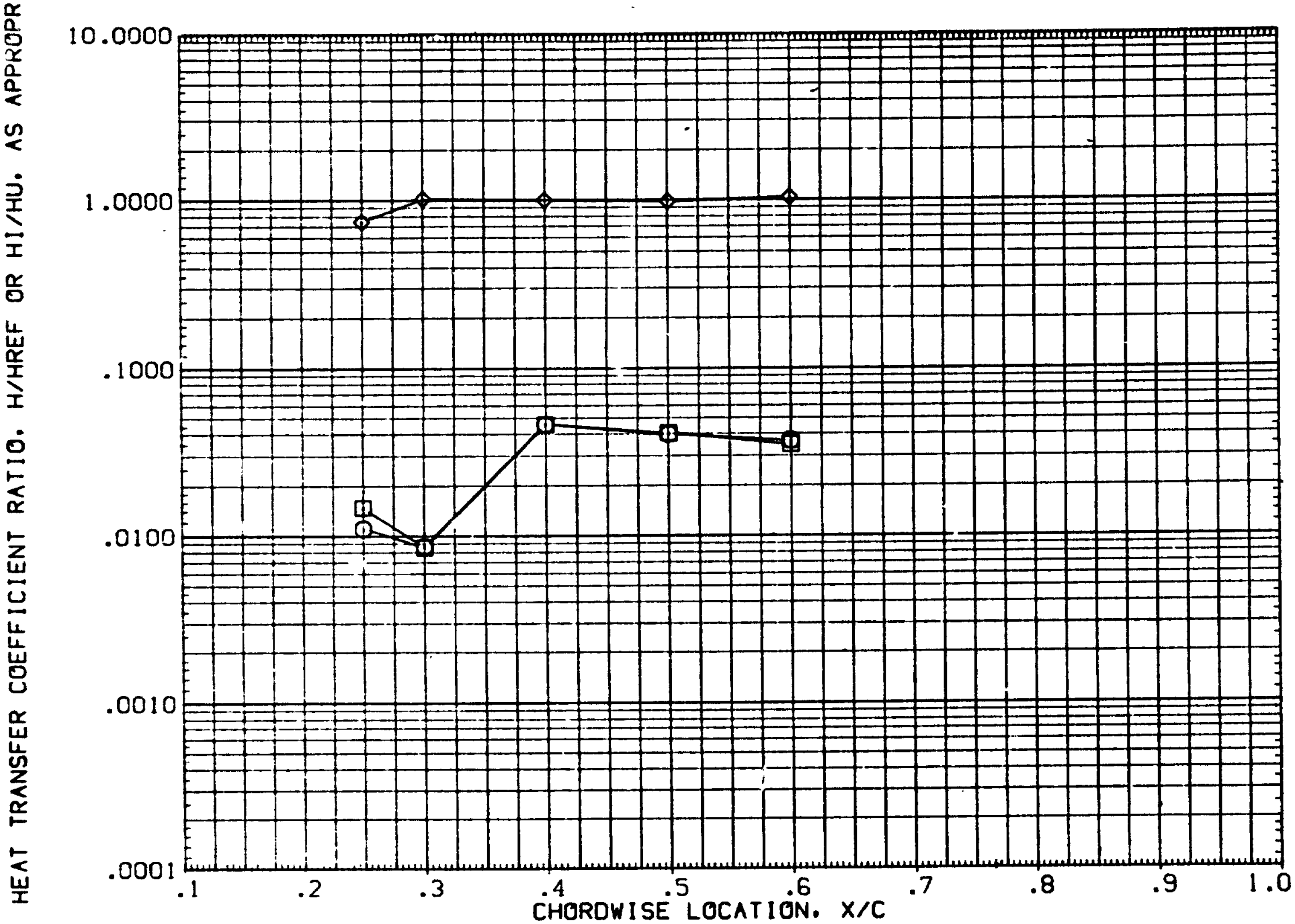
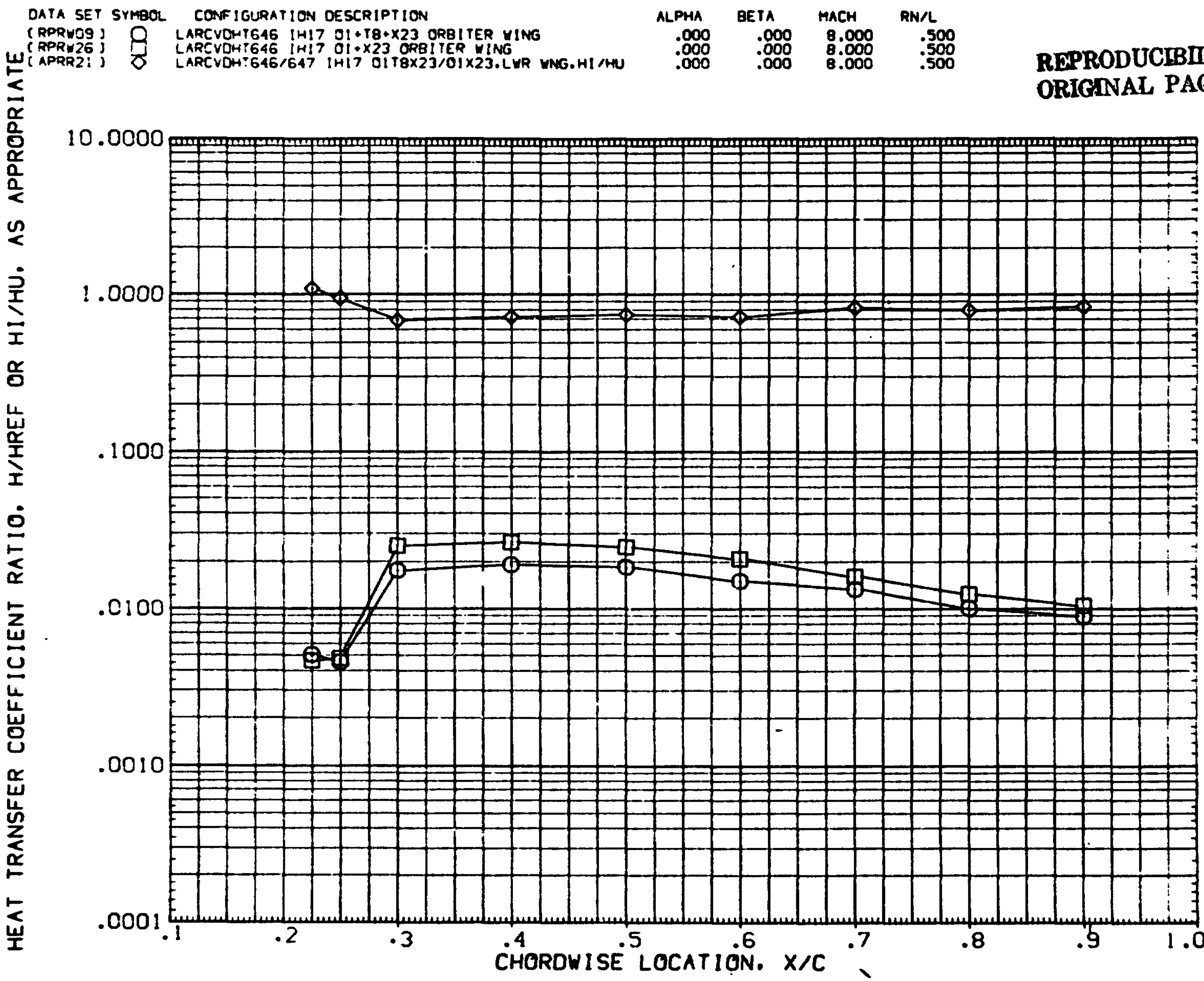


FIG. 23 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 2Y/B = .800



REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

FIG. 24 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 2Y/B = .400

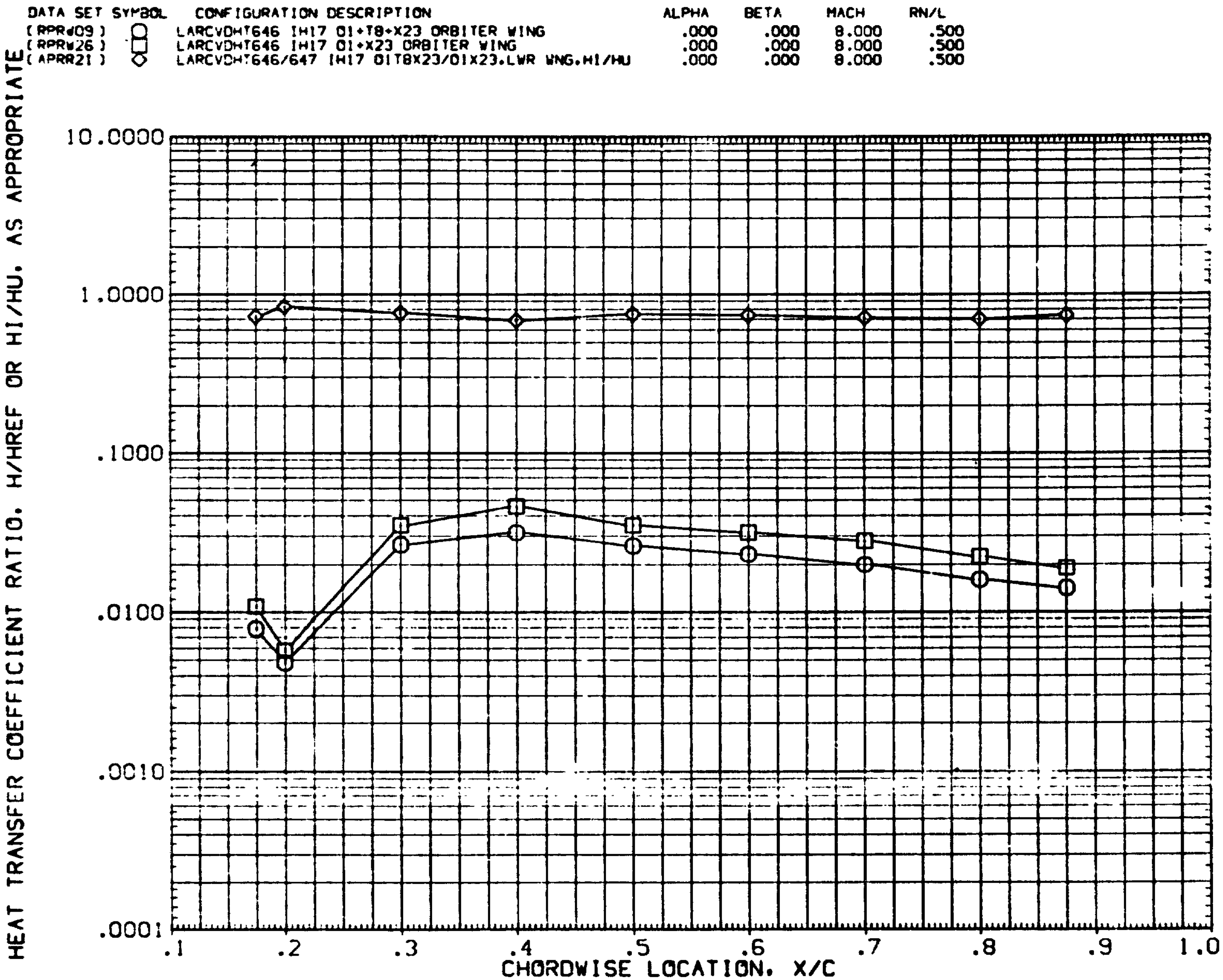


FIG. 24 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 2Y/B = .600

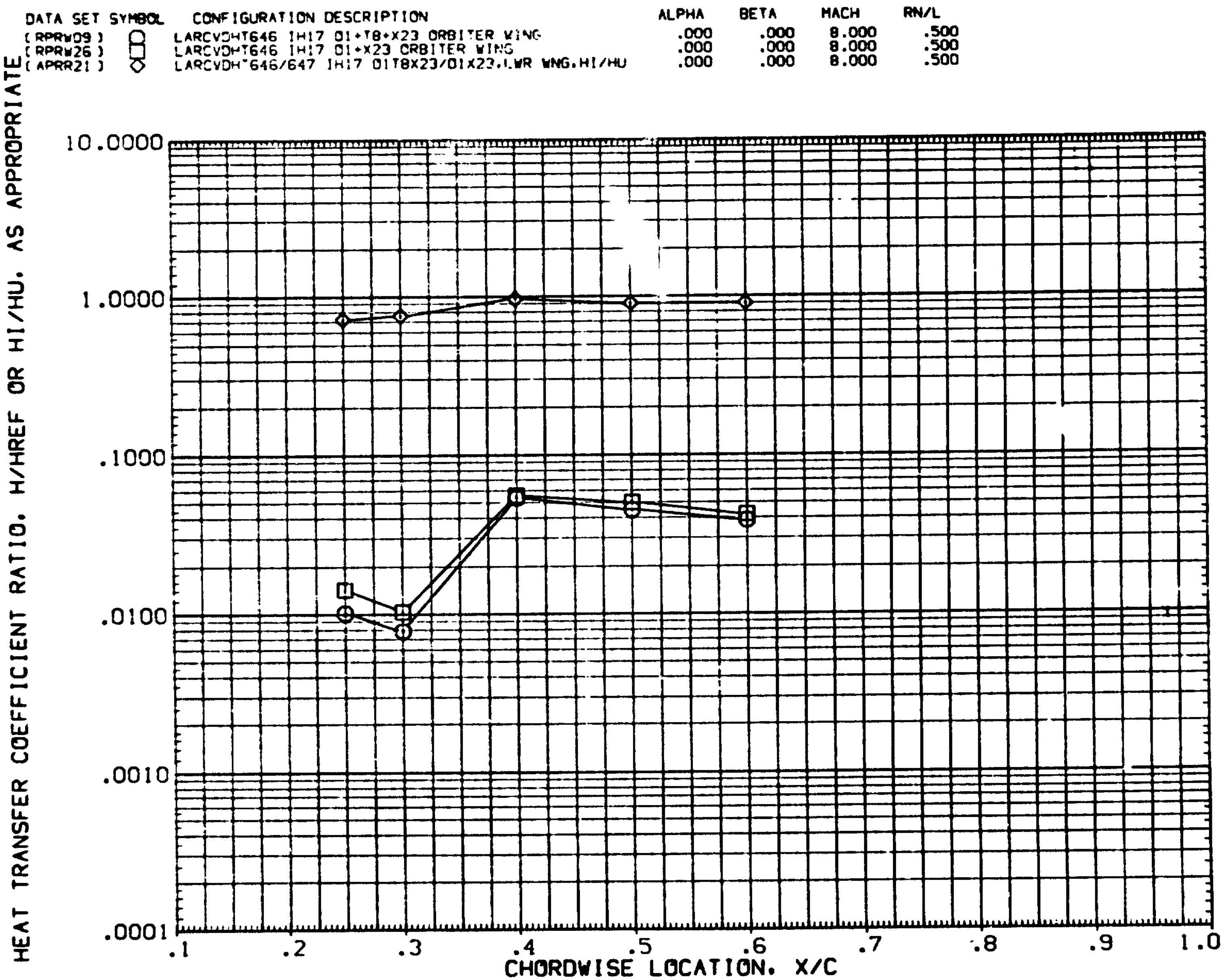


FIG. 24 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 2Y/B = .800

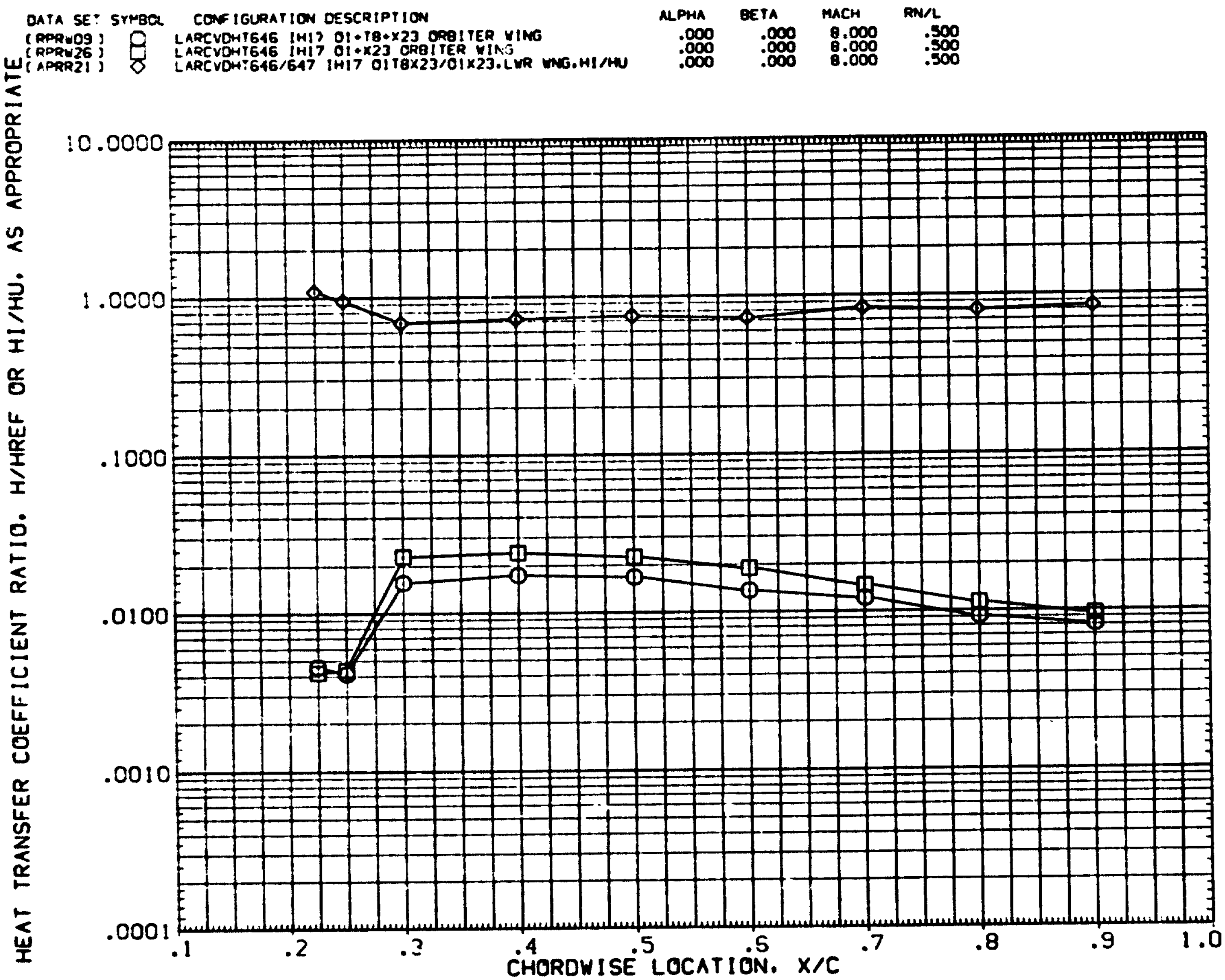


FIG. 24 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 2Y/B = .400

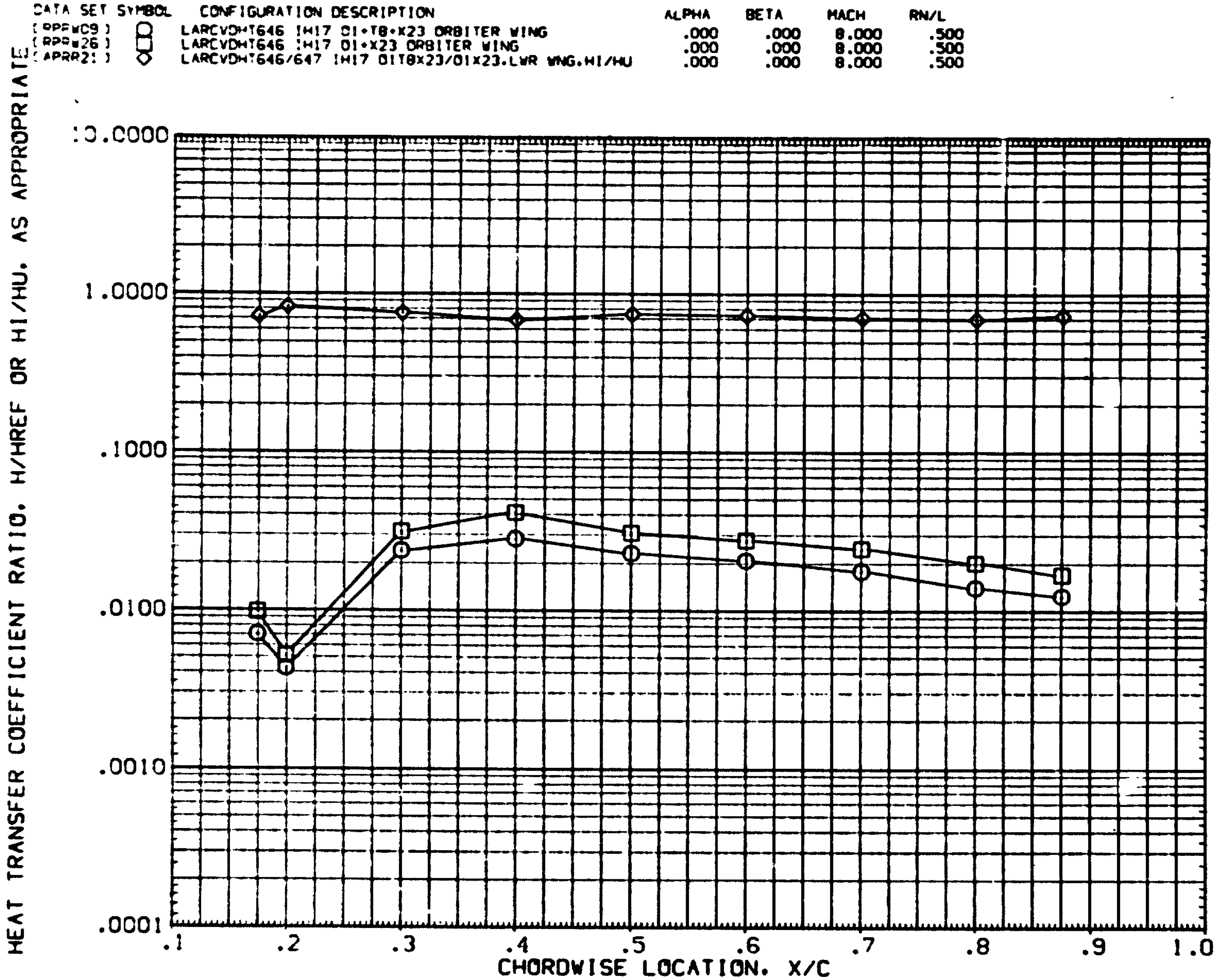


FIG. 24 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 2Y/B = .600

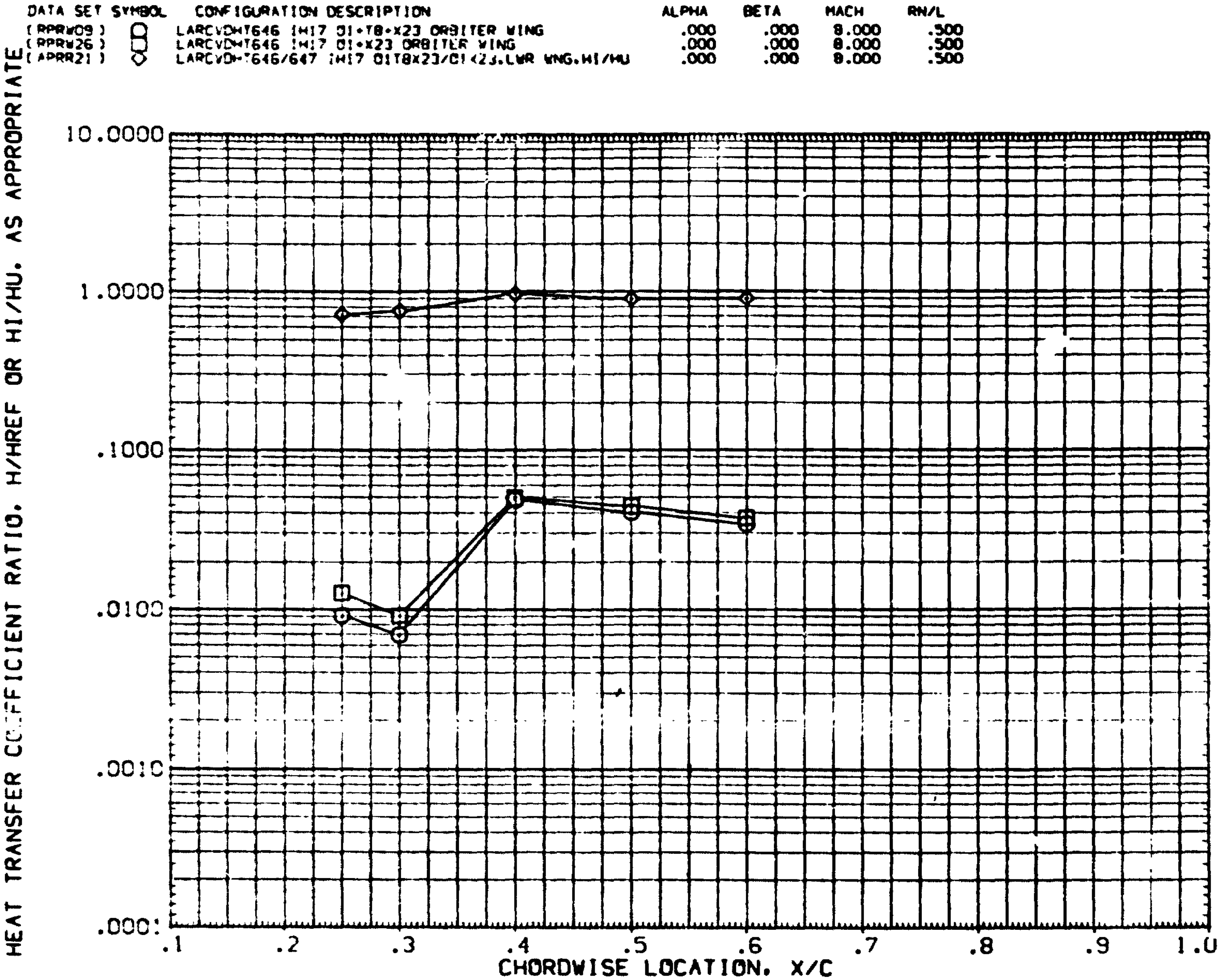


FIG. 24 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 2Y/B = .800

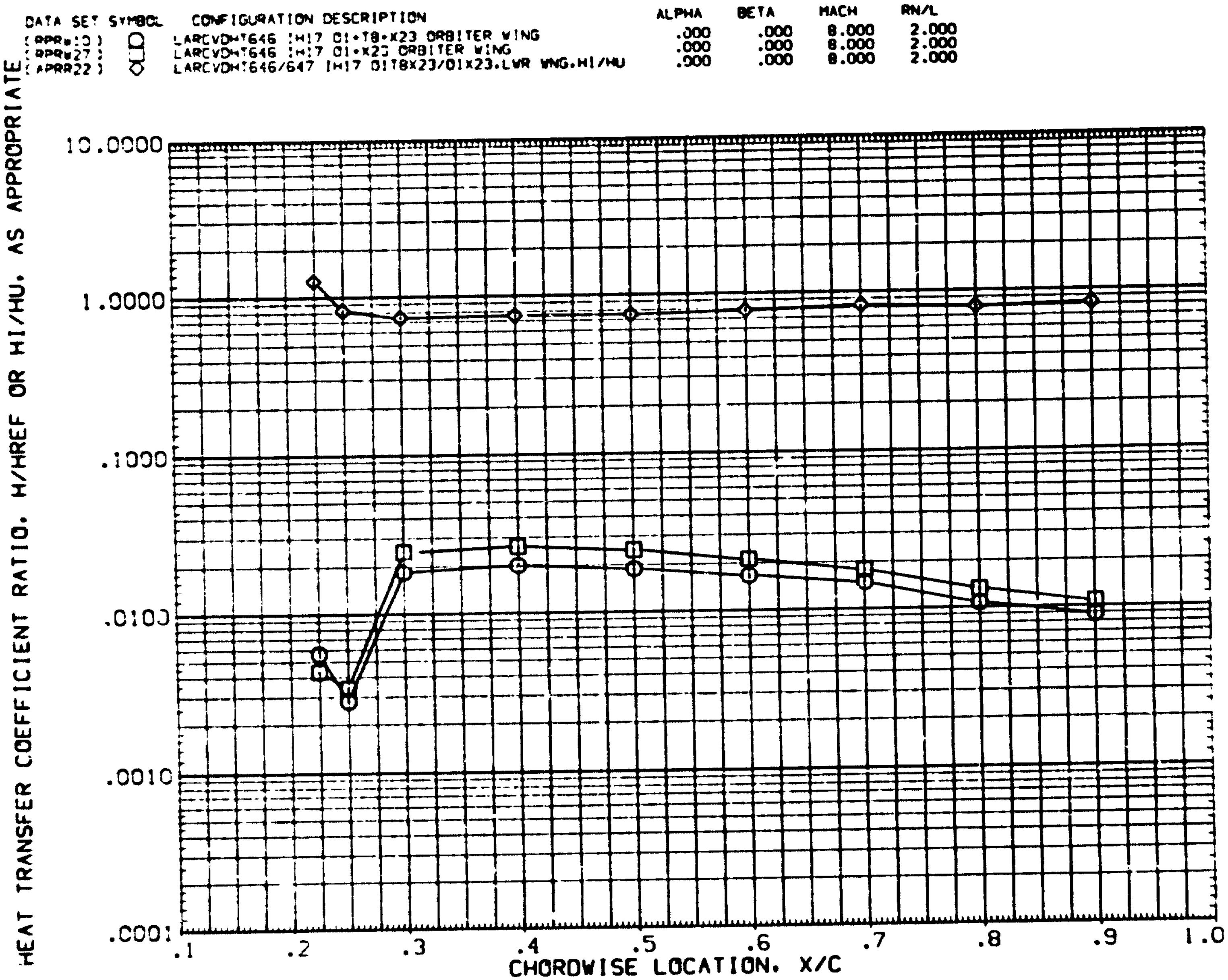


FIG 25 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=2.0, ALPHA= 0.0)

2.000 HAW/HT= .850 2Y/B = .400

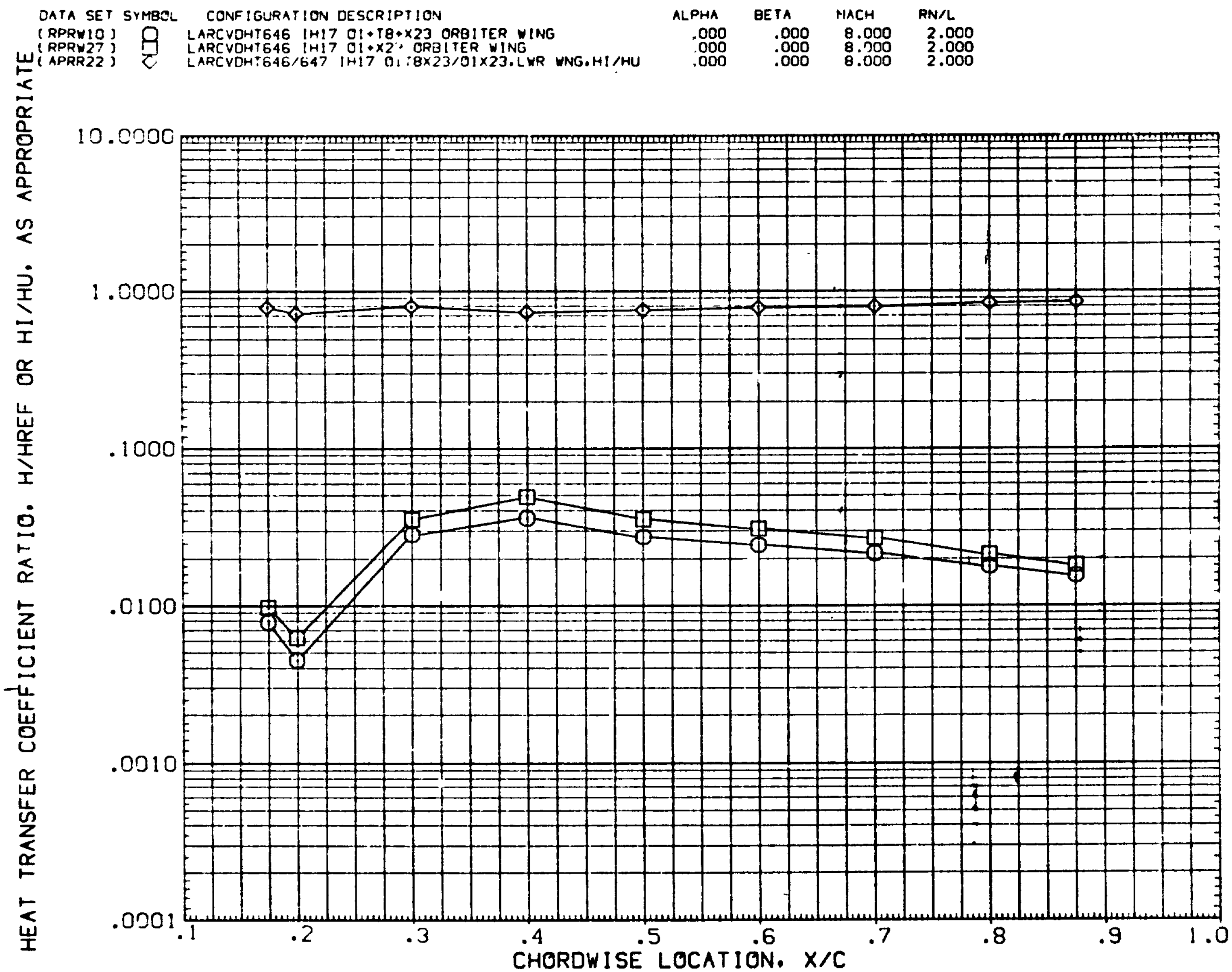


FIG. 25 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 2Y/B = .600

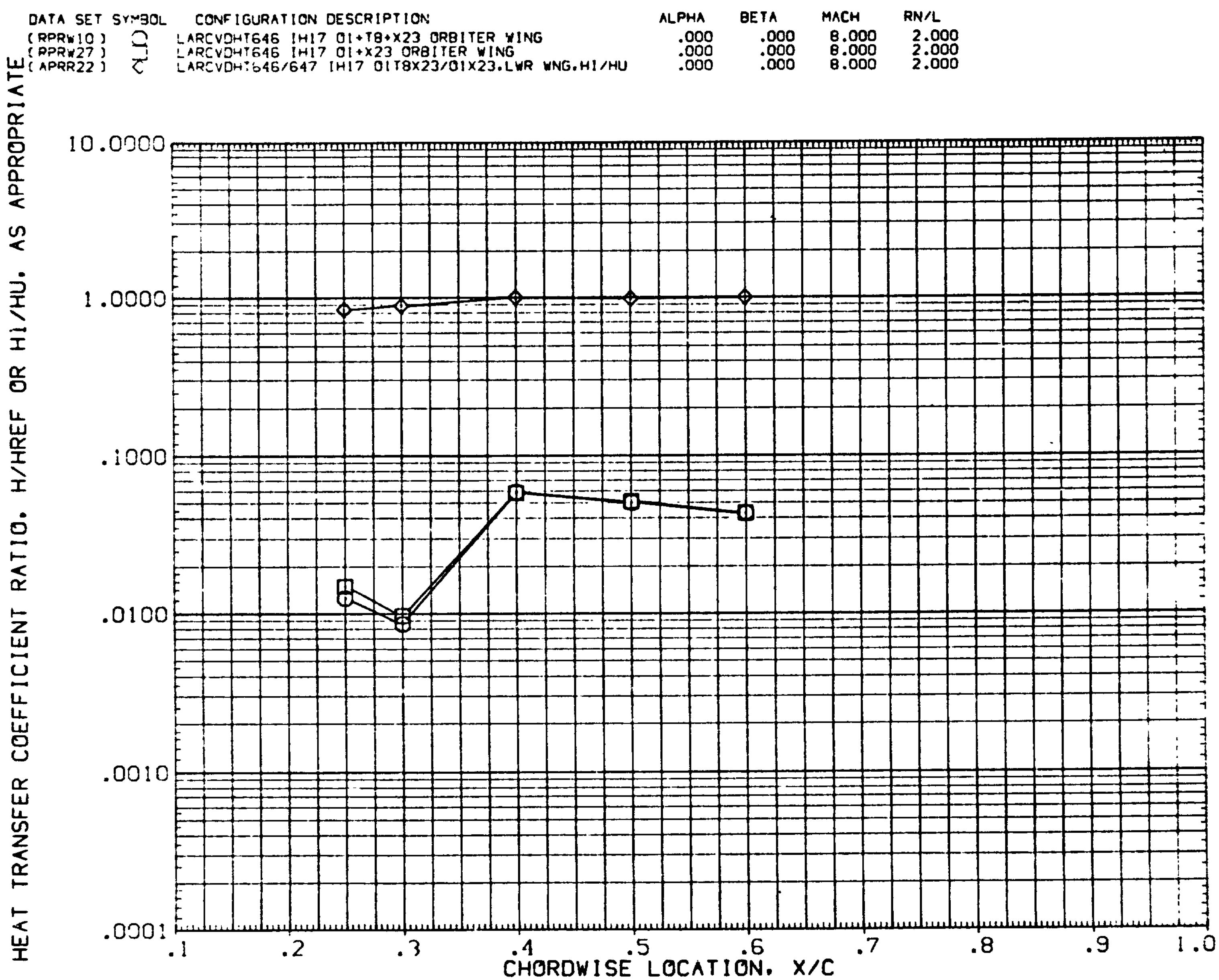


FIG. 25 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 2Y/B = .800

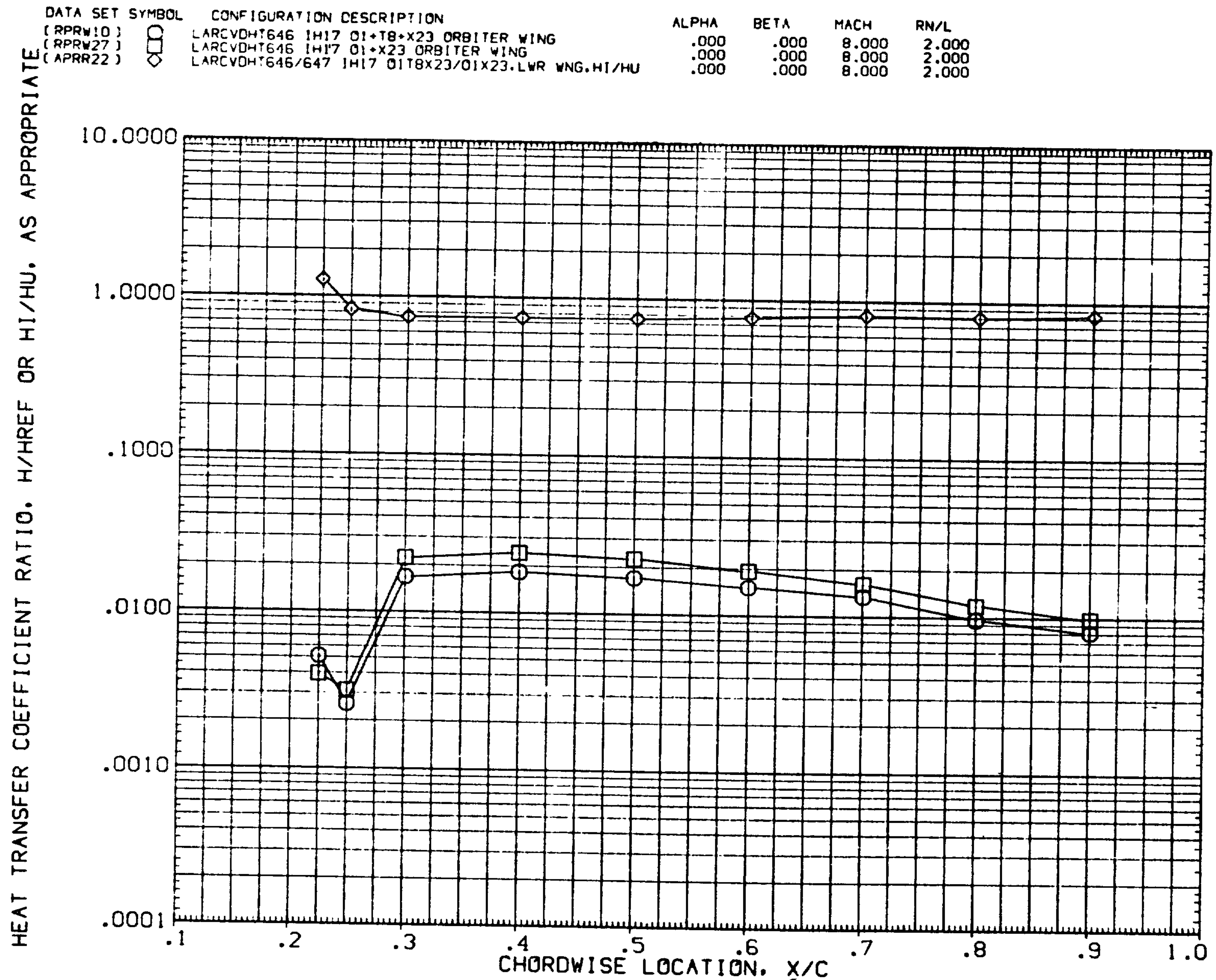


FIG. 25 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 2Y/B = .400

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(RPRW10)	○	LARCVDHT646 IH17 O1+T8+X23 ORBITER WING	.000	.000	8.000	2.000
(RPRW27)	□	LARCVDHT646 IH17 O1+X23 ORBITER WING	.000	.000	8.000	2.000
(APRR22)	◇	LARCVDHT646/647 IH17 O1T8X23/O1X23.LWR WNG.HI/HU	.000	.000	8.000	2.000

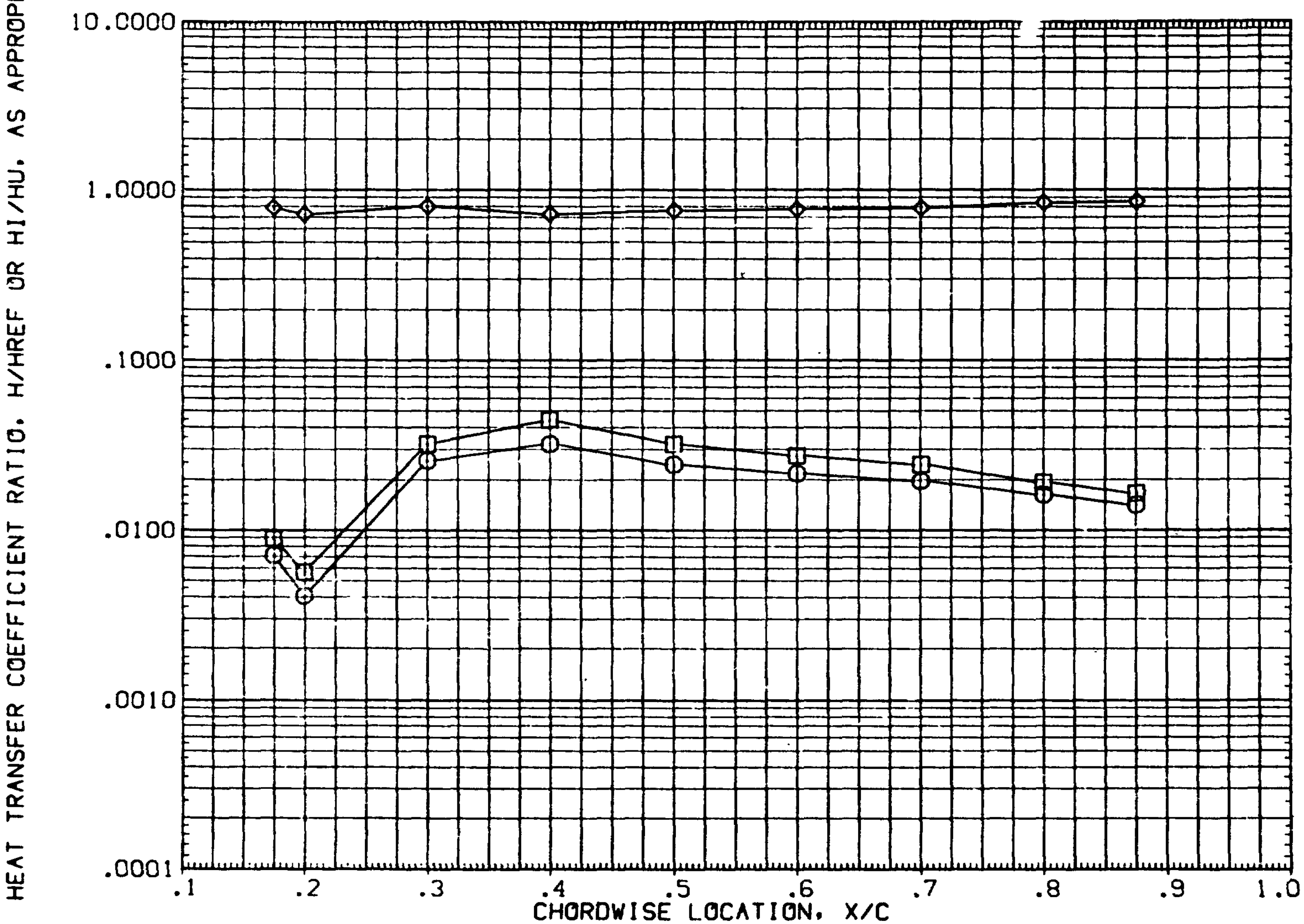


FIG. 25 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 2Y/B = .600

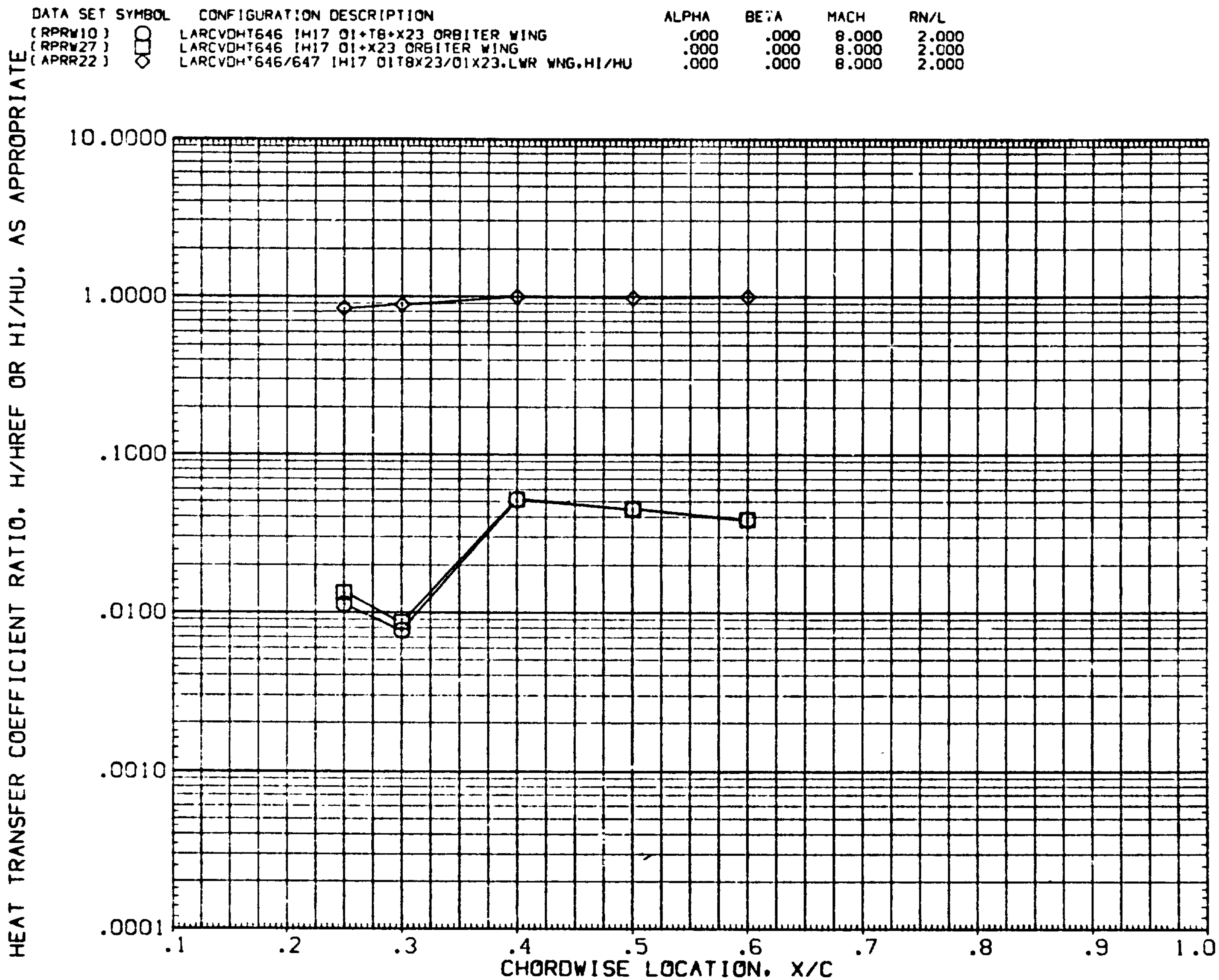


FIG. 25 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 2Y/B = .800

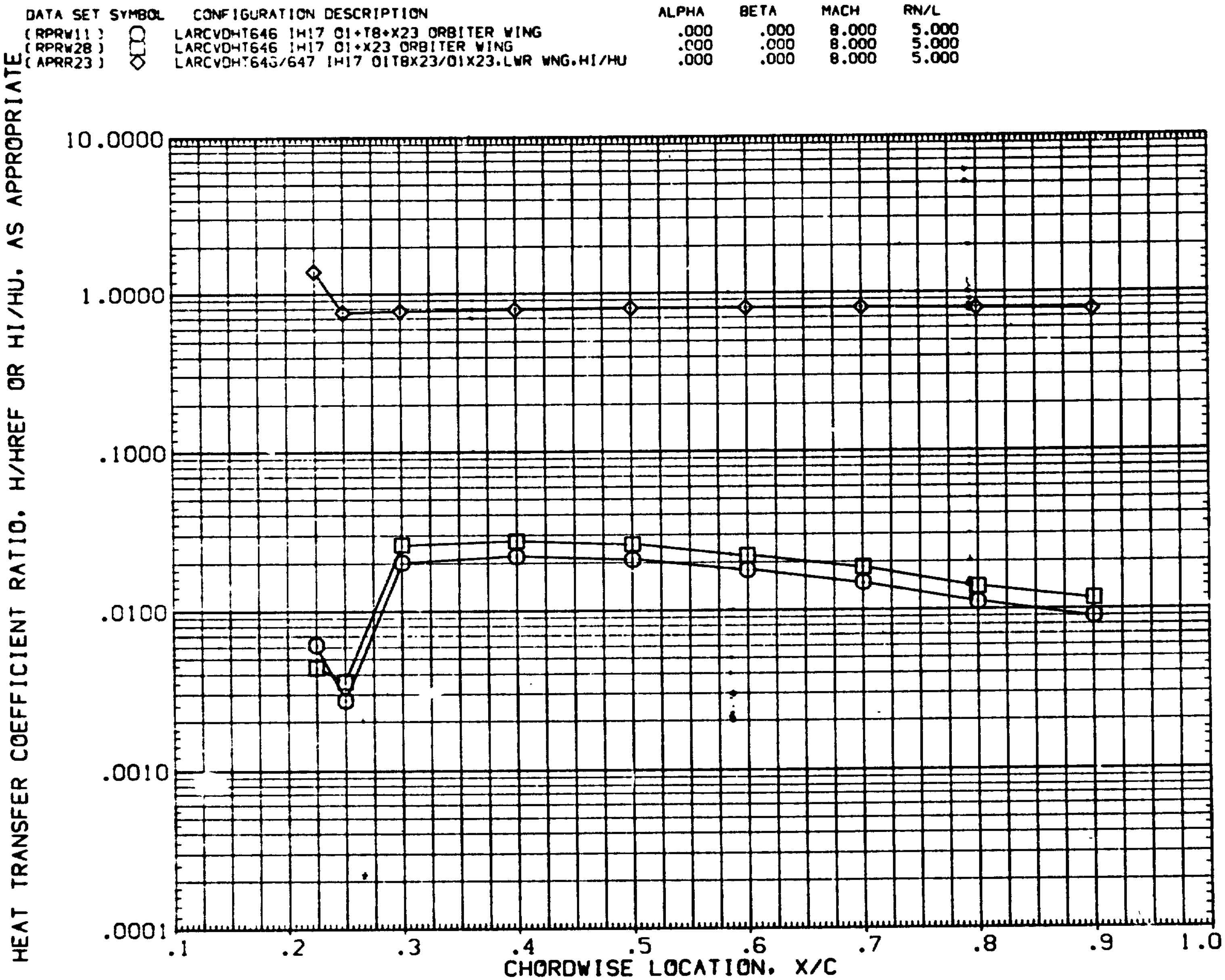


FIG. 26 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 2Y/B = .400

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(RPRW11)	○	LARCVDHT646 IH17 O1+T8+X23 ORBITER WING	.000	.000	8.000	5.000
(RPRW28)	□	LARCVDHT646 IH17 O1+X23 ORBITER WING	.000	.000	8.000	5.000
(APRR23)	◇	LARCVDHT646/647 IH17 O1T8X23/O1X23.LWR WNG.HI/HU	.000	.000	8.000	5.000

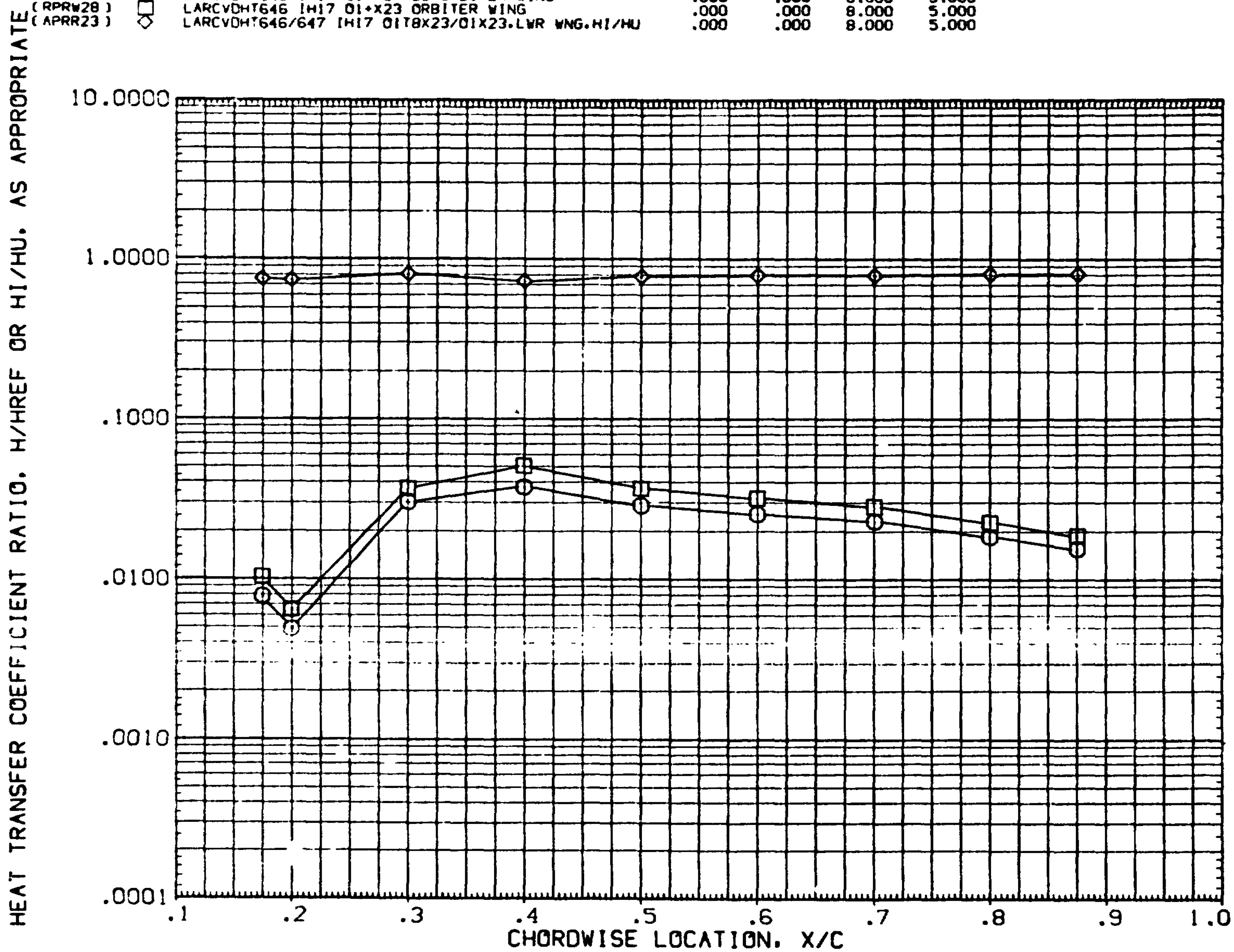


FIG. 26 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 2Y/B = .600

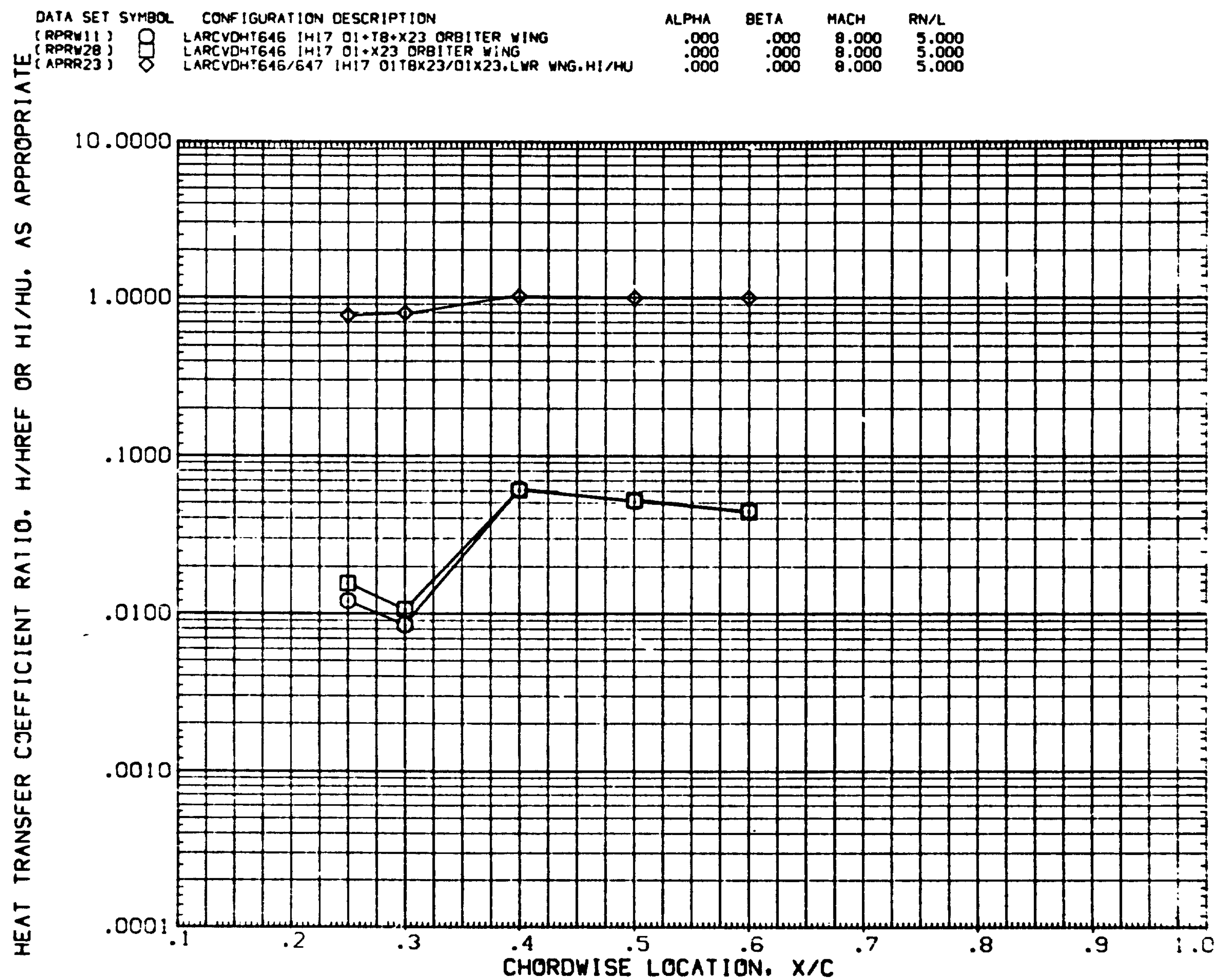


FIG. 26 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 2Y/B = .800

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(RPRW11)	○	LARCVDHT646 IH17 O1+T8+X23 ORBITER WING	.000	.000	8.000	5.000
(RPRW28)	□	LARCVDHT646 IH17 O1+X23 ORBITER WING	.000	.000	8.000	5.000
(APRR23)	◇	LARCVDHT646/647 IH17 O1T8X23/O1X23.LWR WNG.HI/HU	.000	.000	8.000	5.000

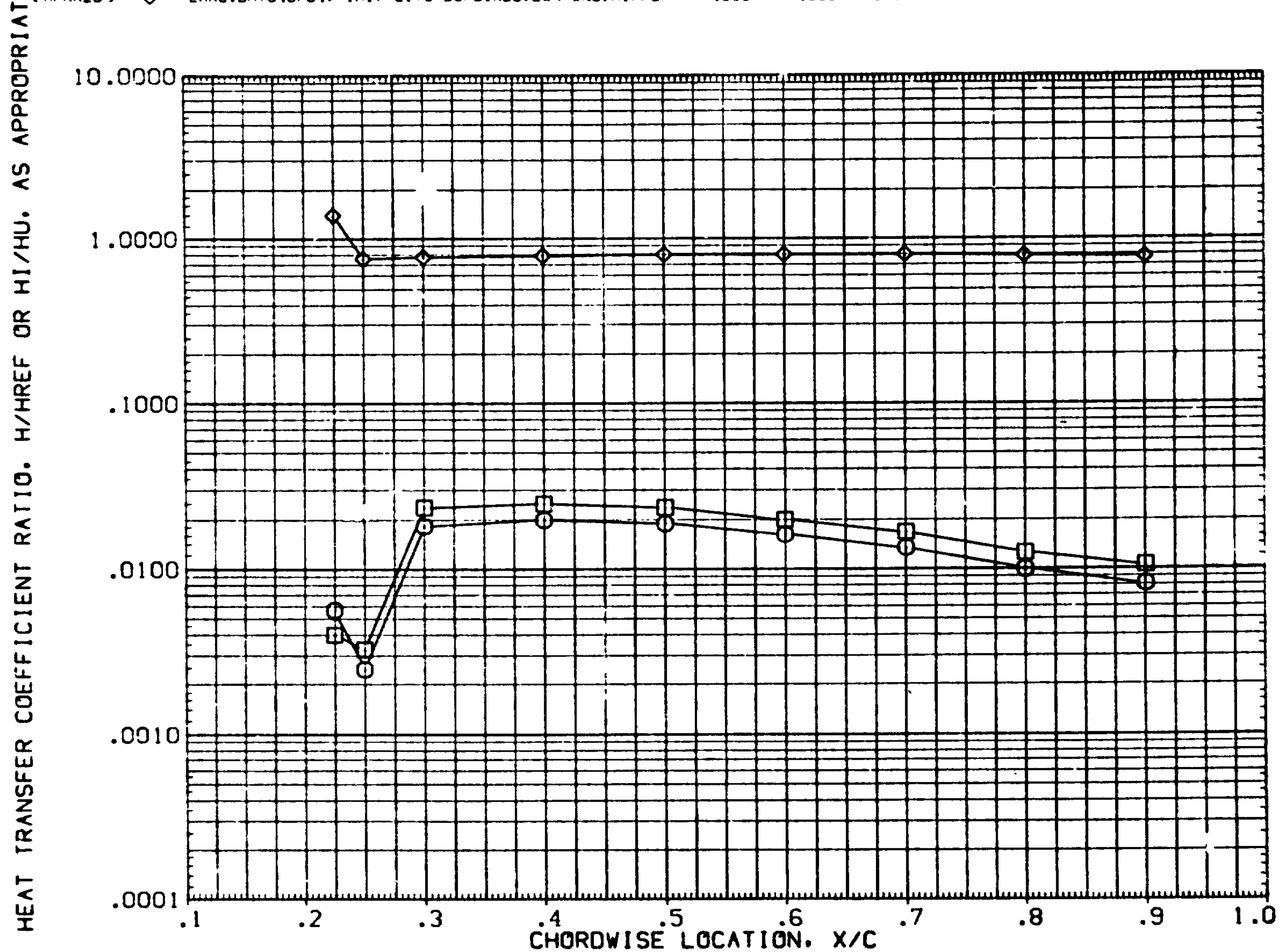


FIG. 26 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 2Y/B = .400

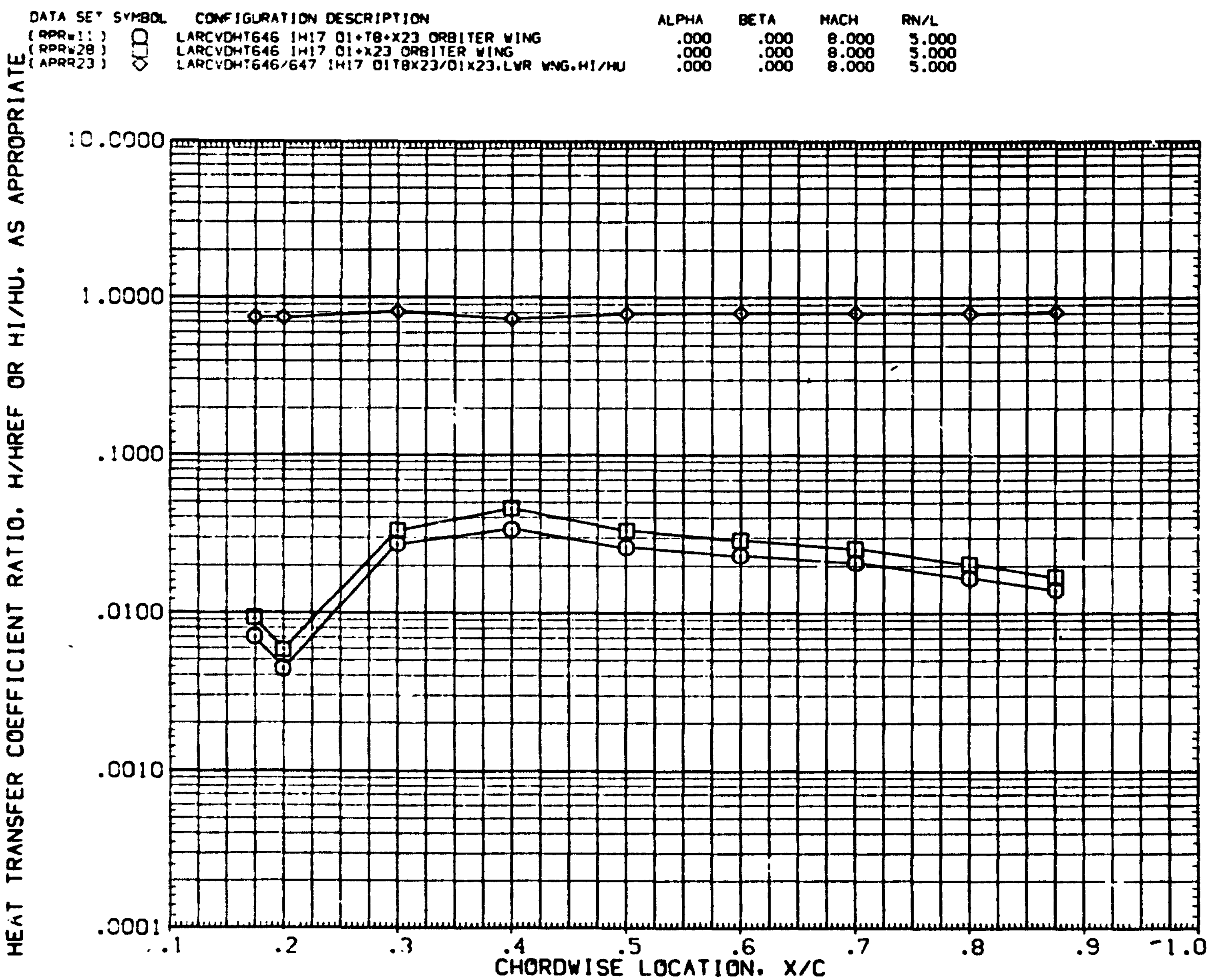


FIG. 26 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 2Y/B = .600

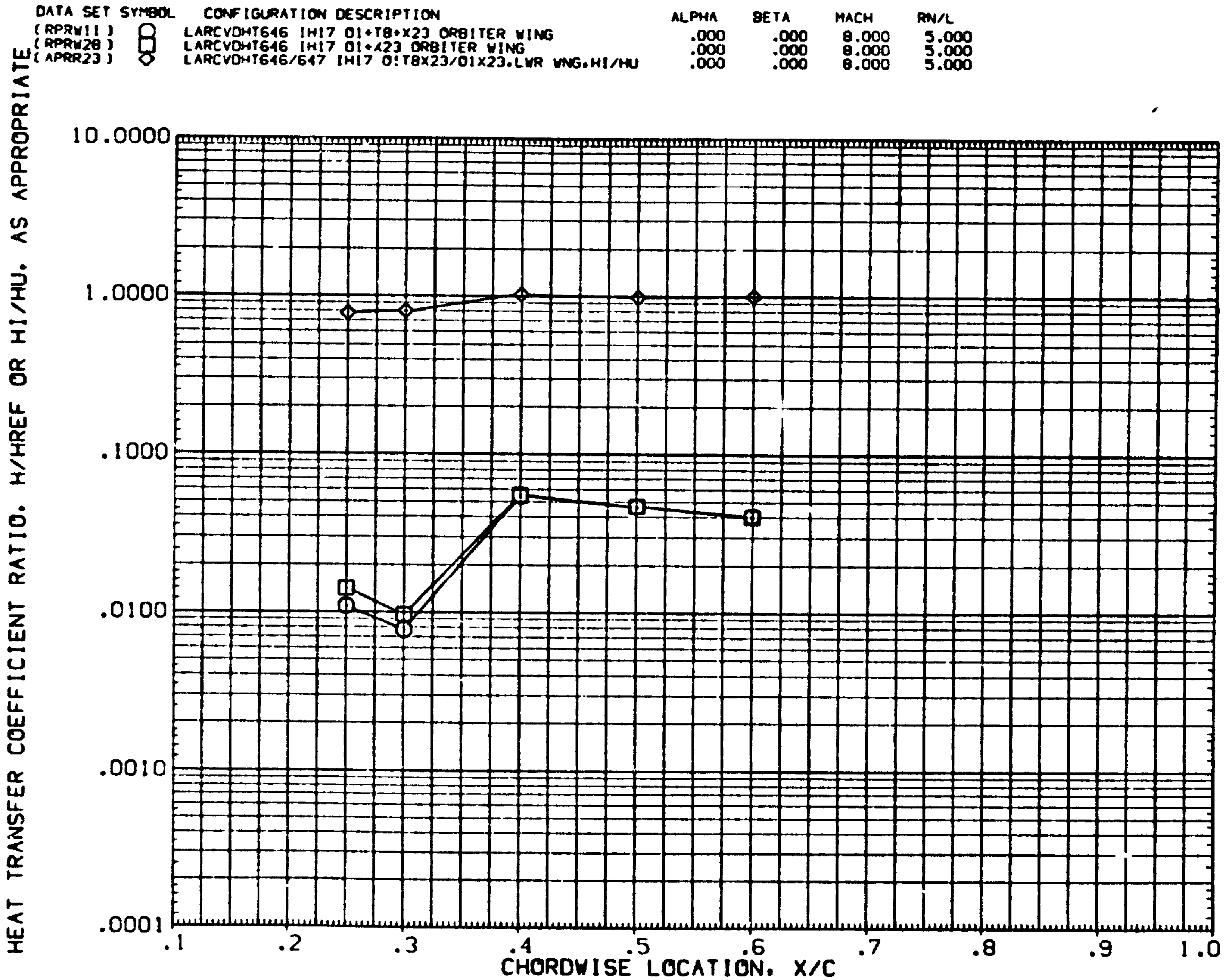


FIG. 26 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 2Y/B = .800

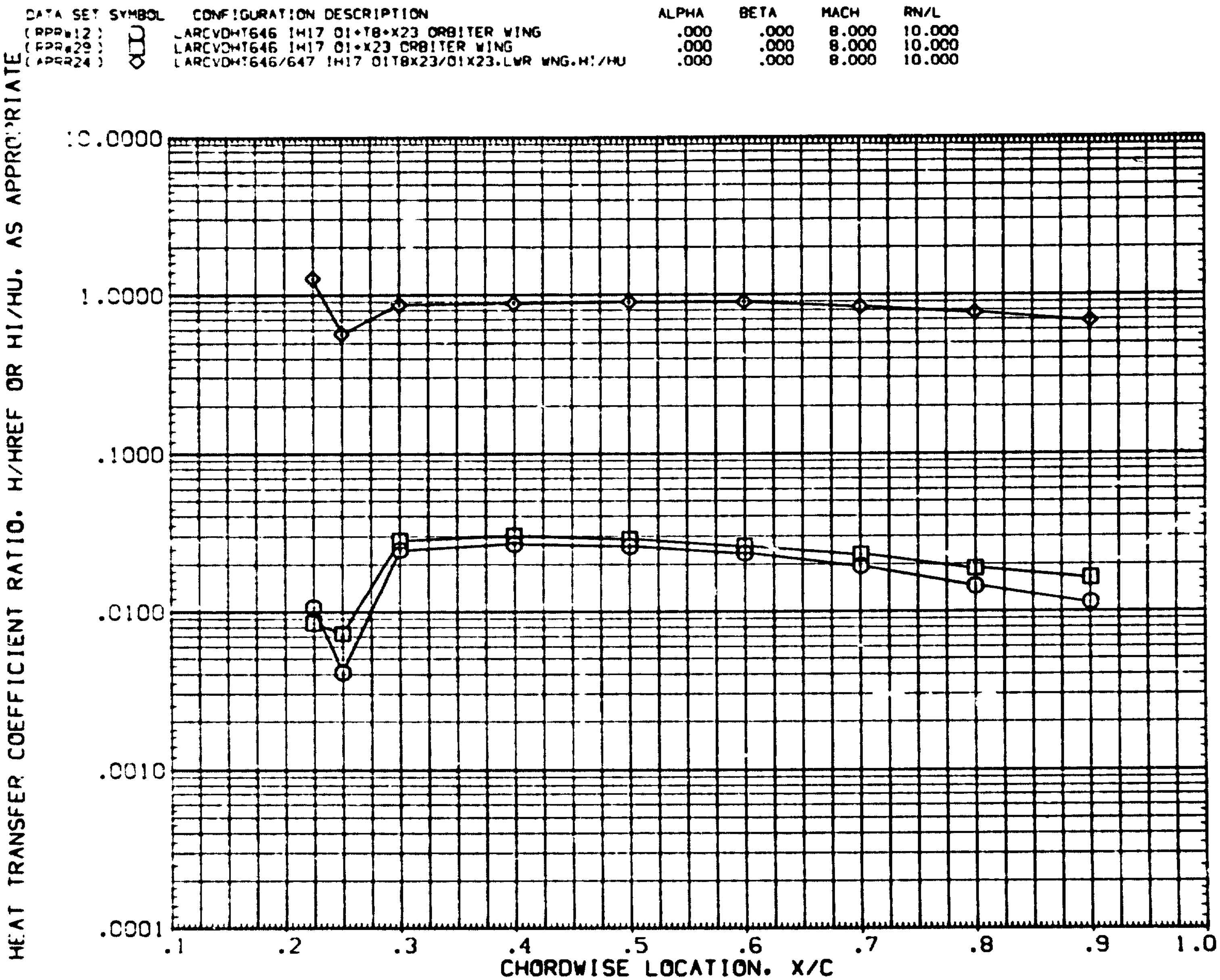


FIG. 27 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=10.0. ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 2Y/B = .400

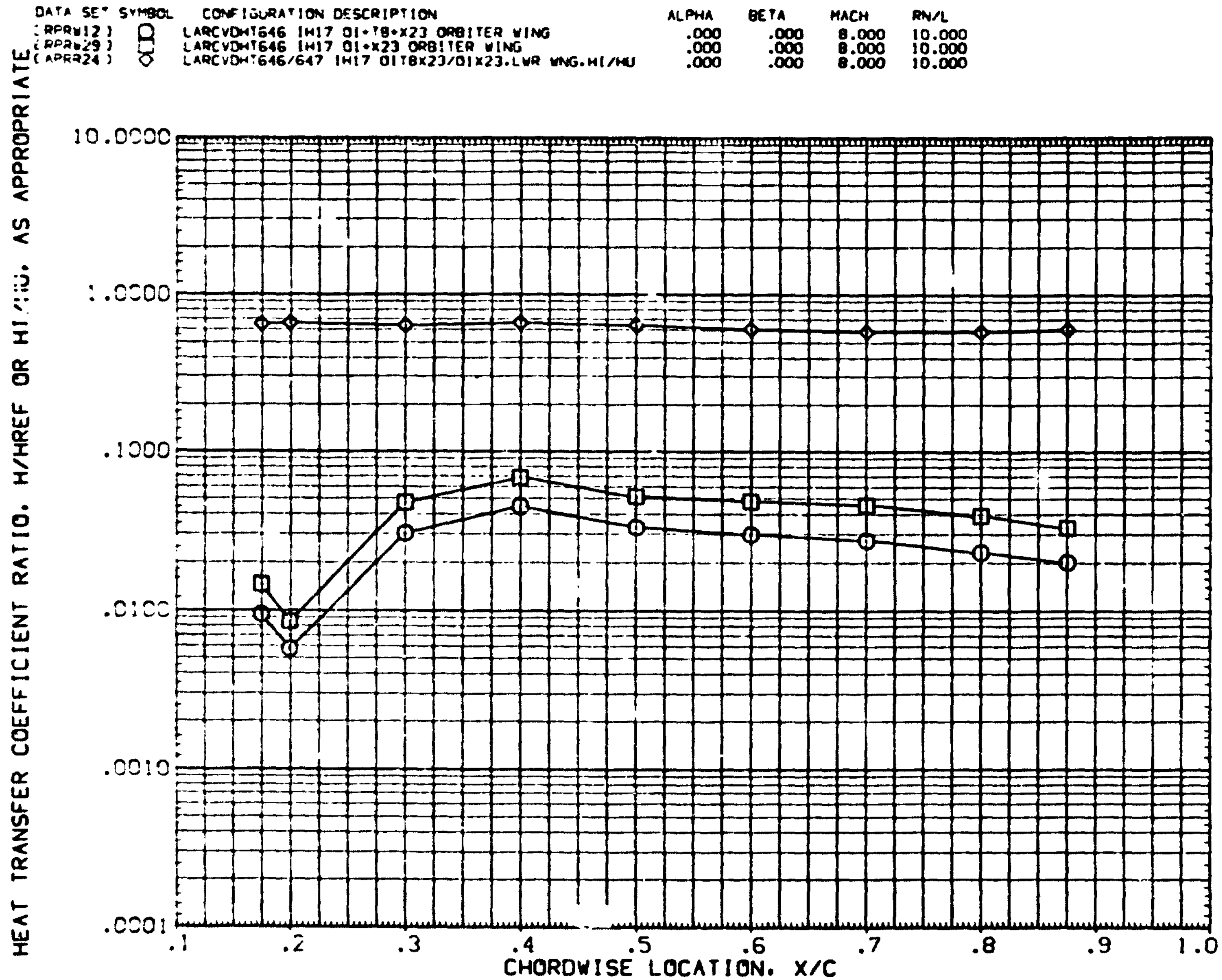


FIG. 27 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 2Y/B = .600

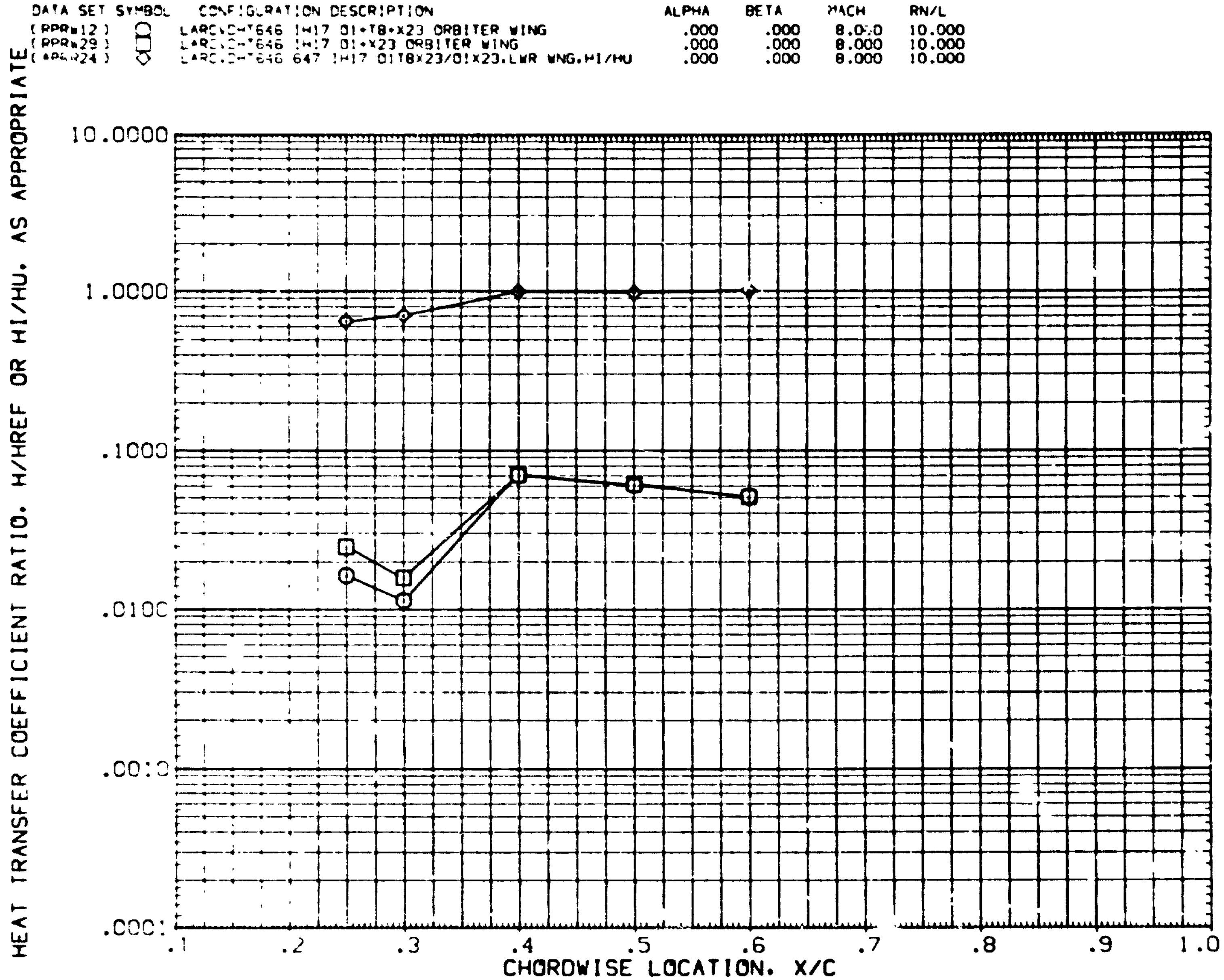


FIG. 27 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 2Y/B = .800

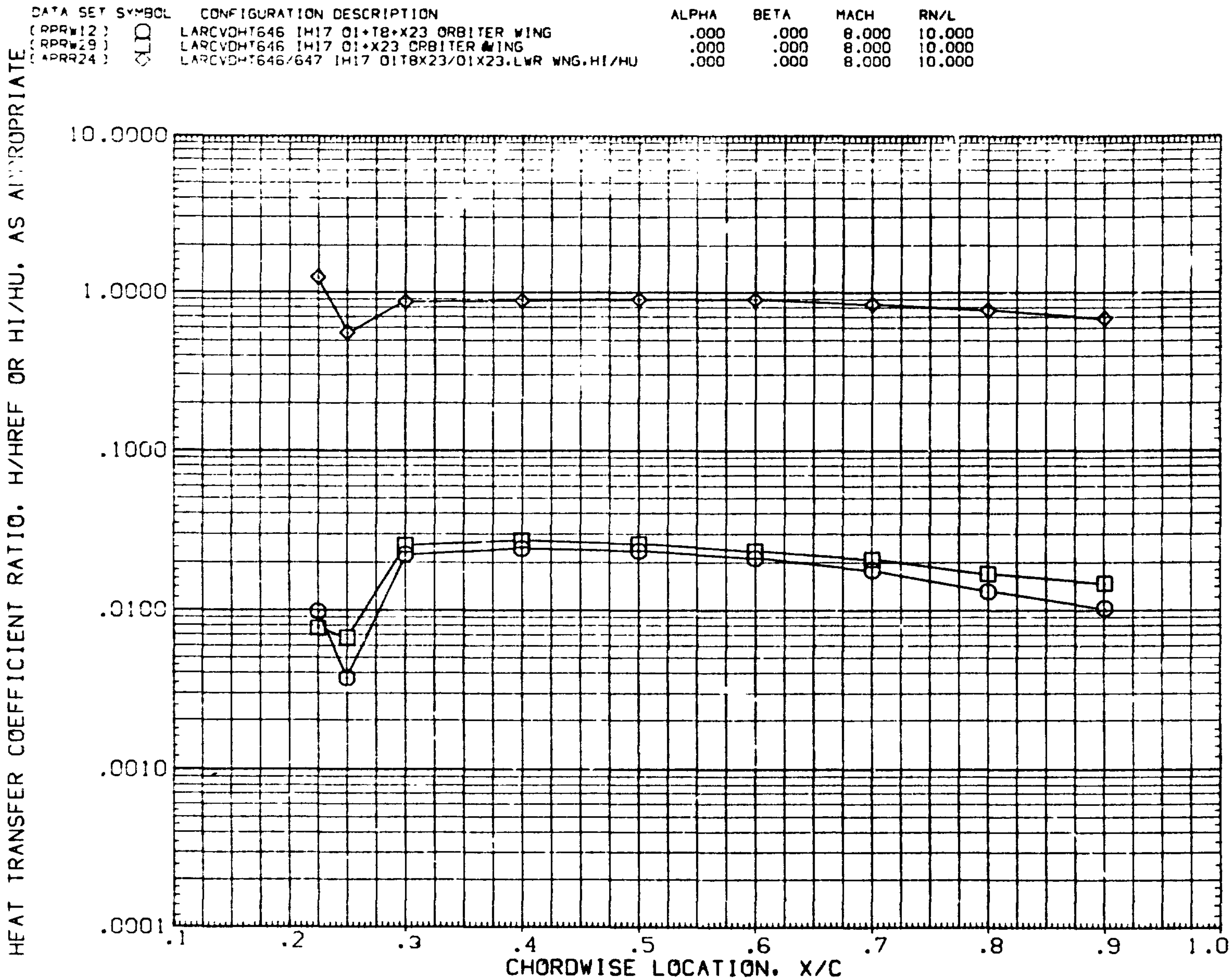


FIG. 27 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 2Y/B = .400

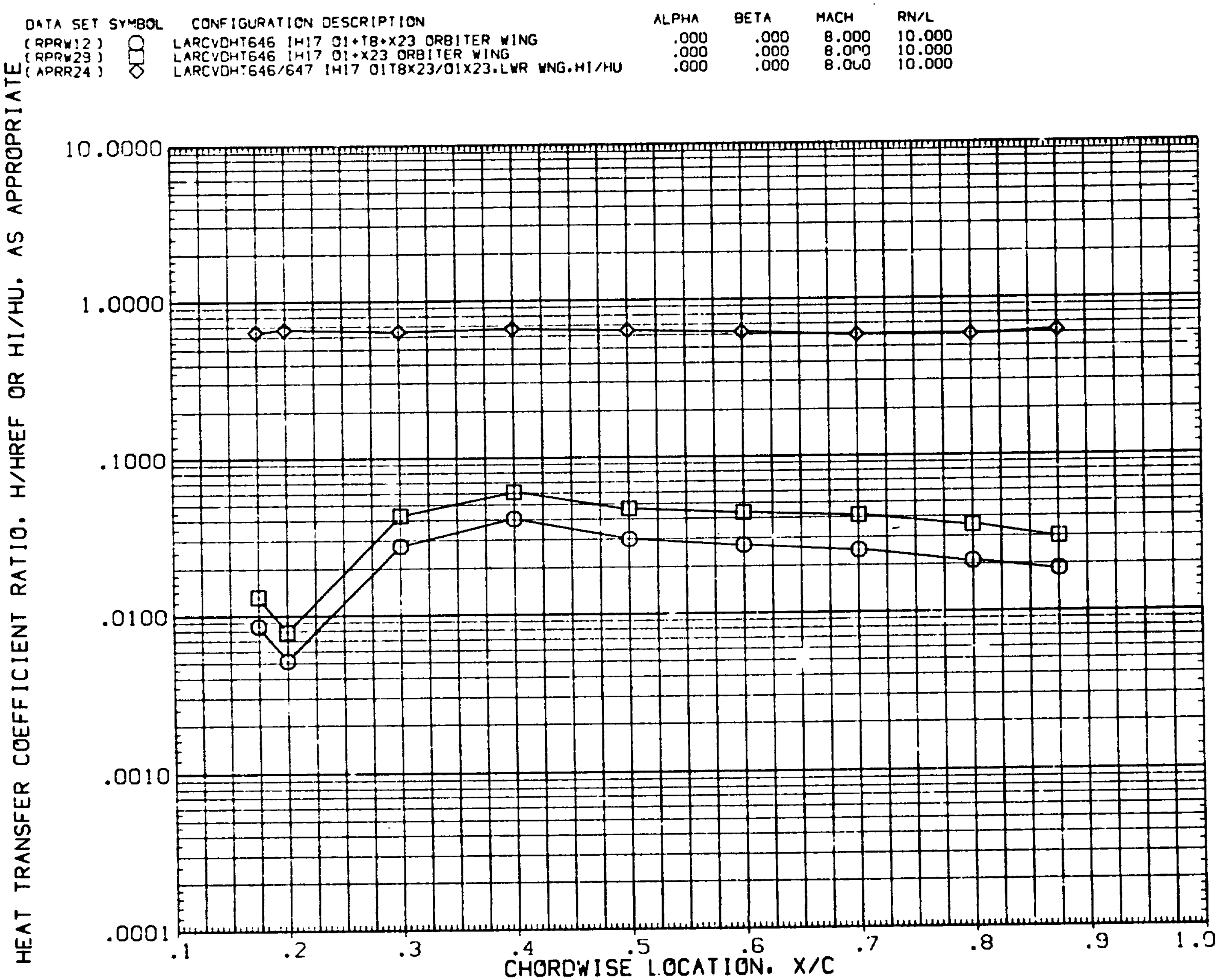


FIG. 27 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 2Y/3 = .600

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(RPRW12)	○	LARCVDHT646 IH17 O1+T8+X23 ORBITER WING	.000	.000	8.000	10.000
(RPRW29)	□	LARCVDHT646 IH17 O1+X23 ORBITER WING	.000	.000	8.000	10.000
(APRR24)	◇	LARCVDHT646/647 IH17 O1T8X23/O1X23.LWR WNG.HI/HU	.000	.000	8.000	10.000

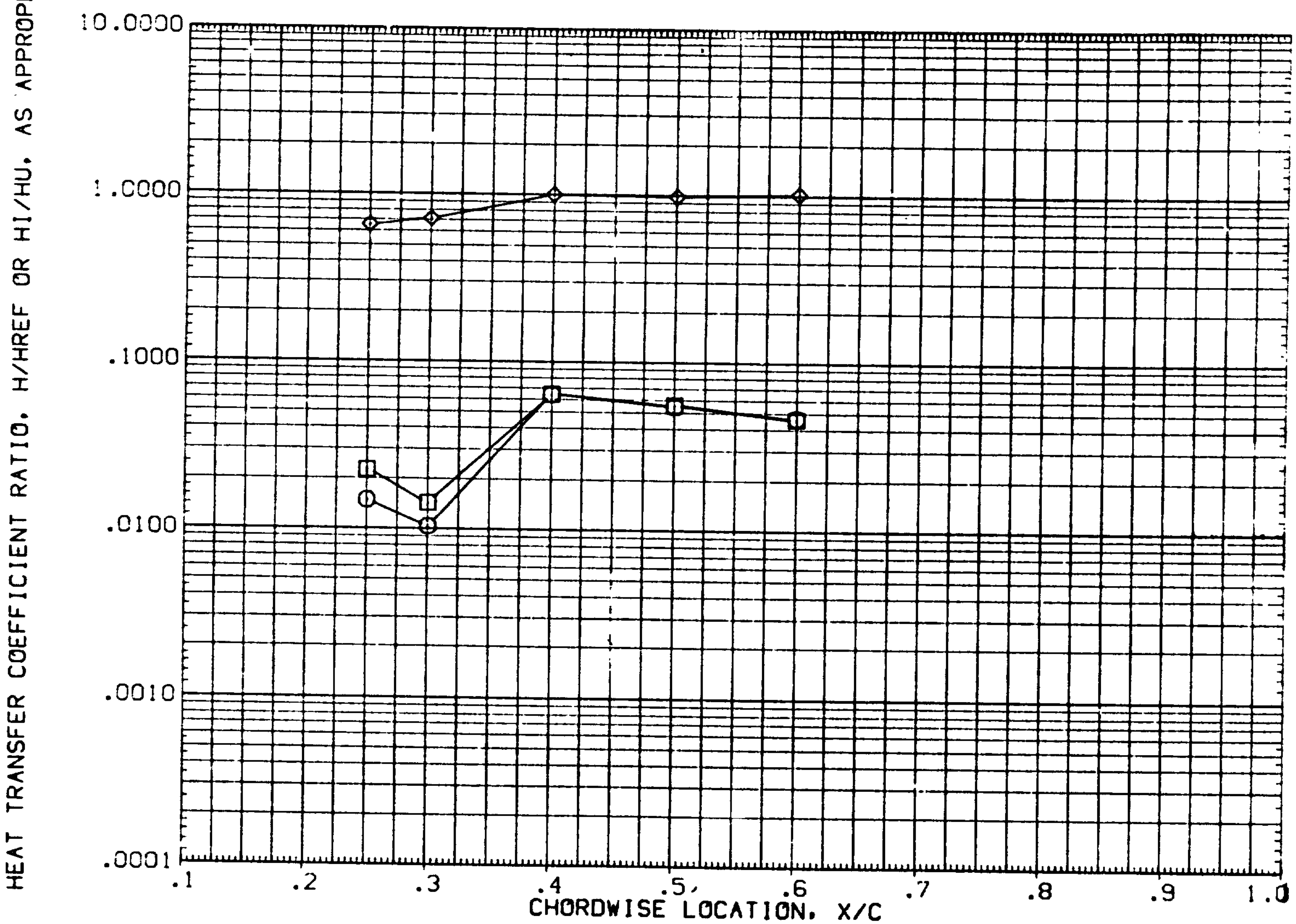


FIG. 27 EFFECT OF E.T. + X23 ON ORB. WING HEAT TRANSFER(RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 2Y/B = .800

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT01)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	.100
(APRT13)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	.100
(APRR25)	◇	LARCVDHT646/647 IH17 O1T8/T8,EXTERNAL TANK,HI/HU	.000	.000	8.000	.100

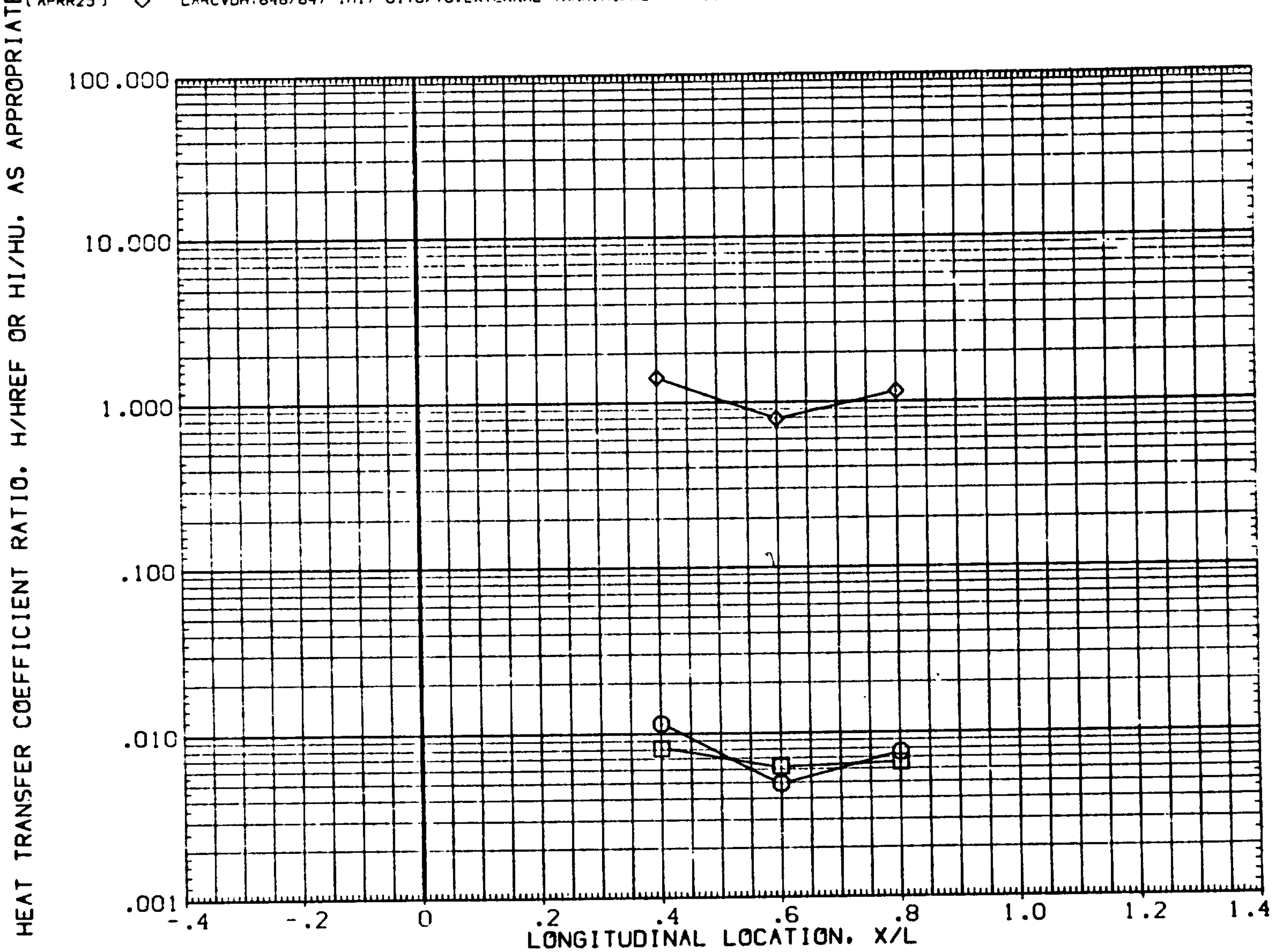


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 PHI = .000

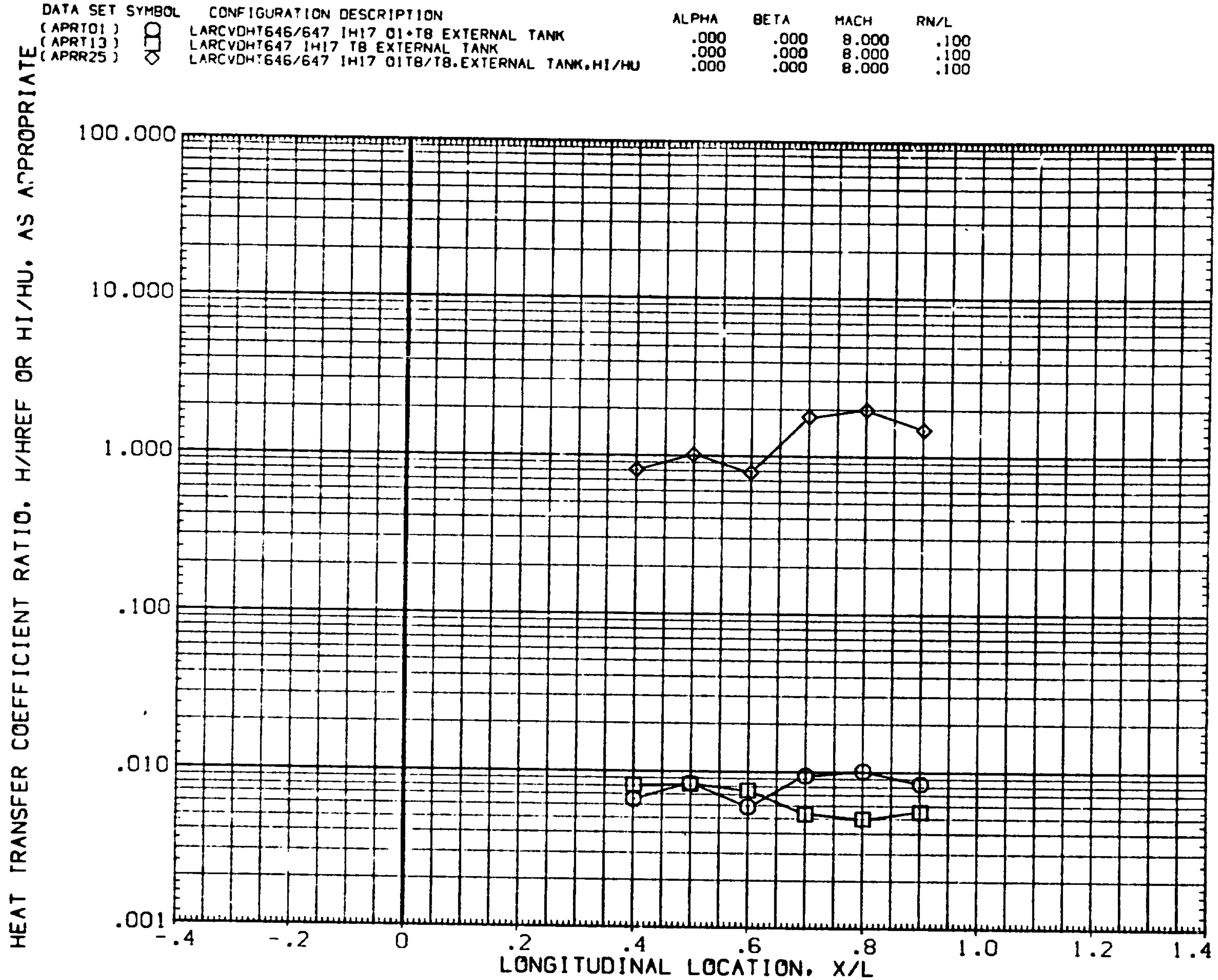


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 PHI = 45.000

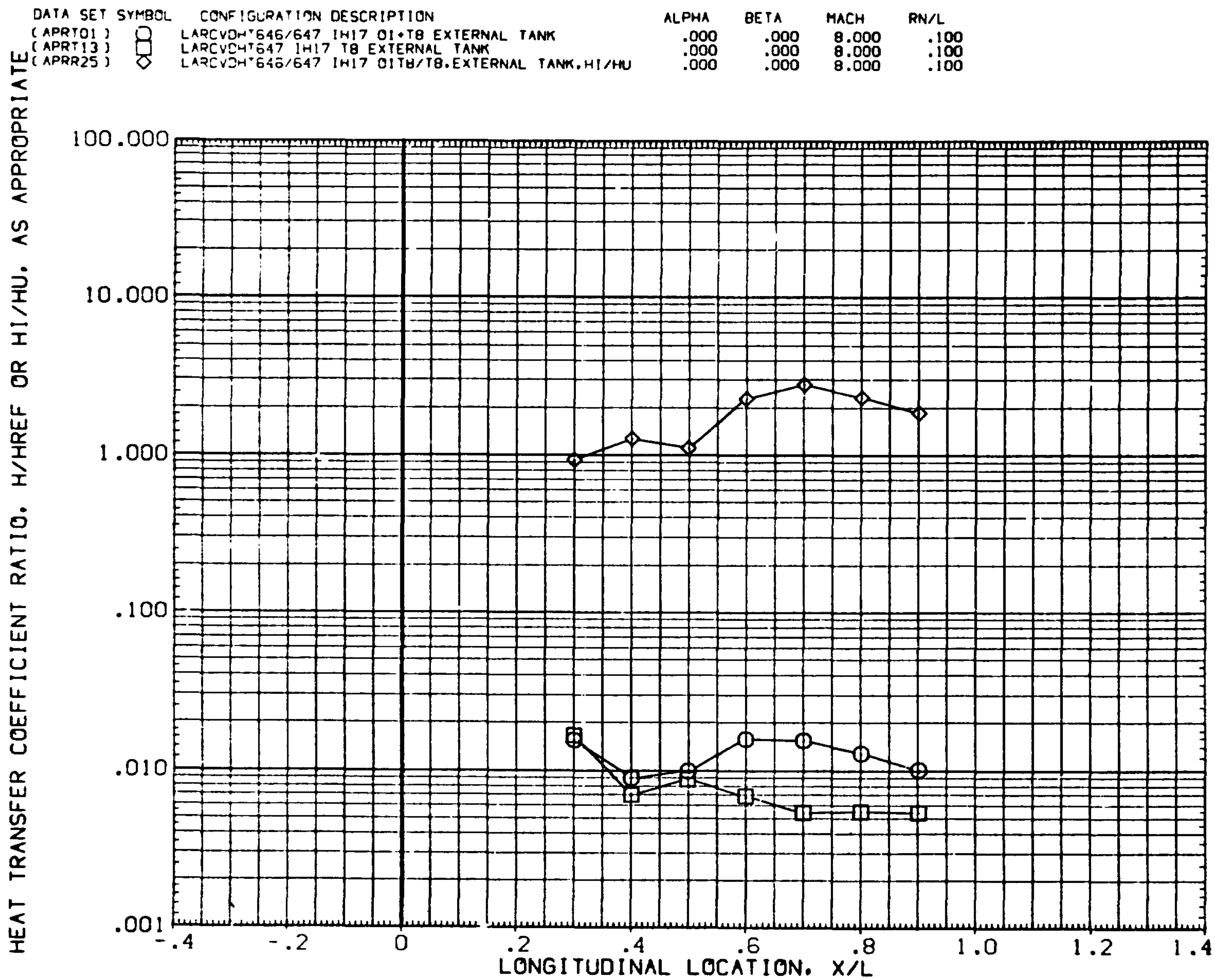


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 PHI = 67.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT01)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	.100
(APRT13)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	.100
(APRR25)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	.100

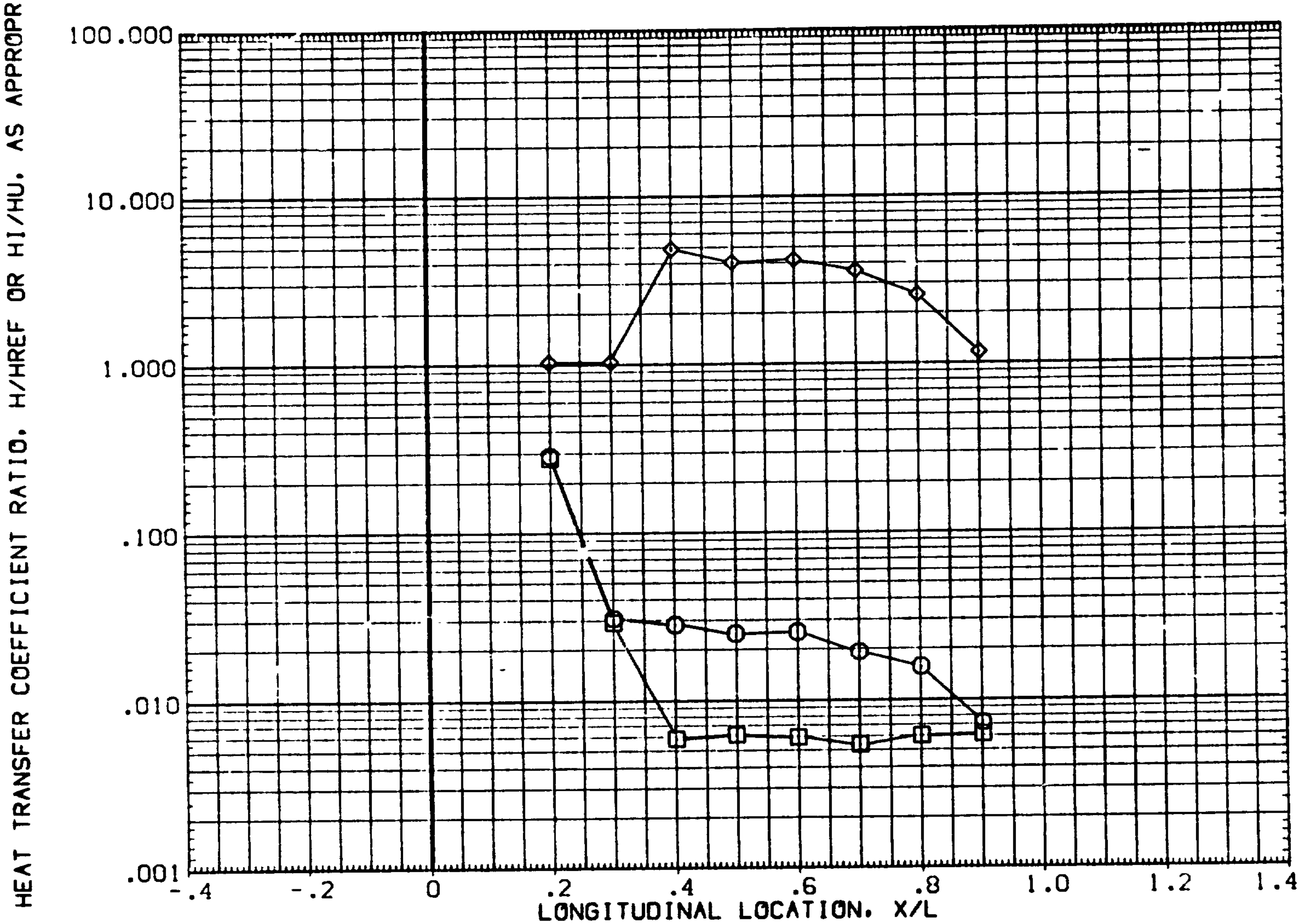


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 PHI = 90.000

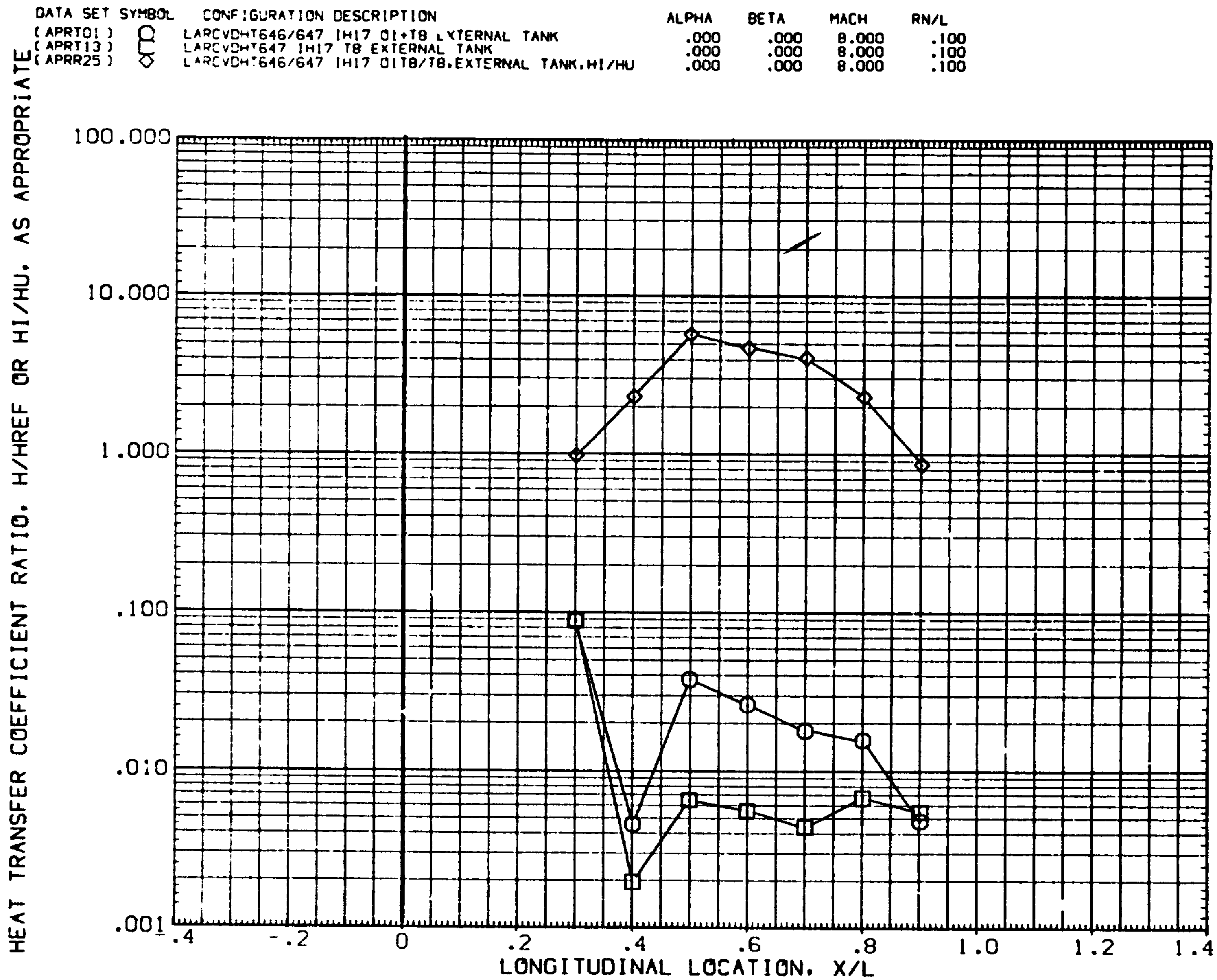


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 PHI = 112.500

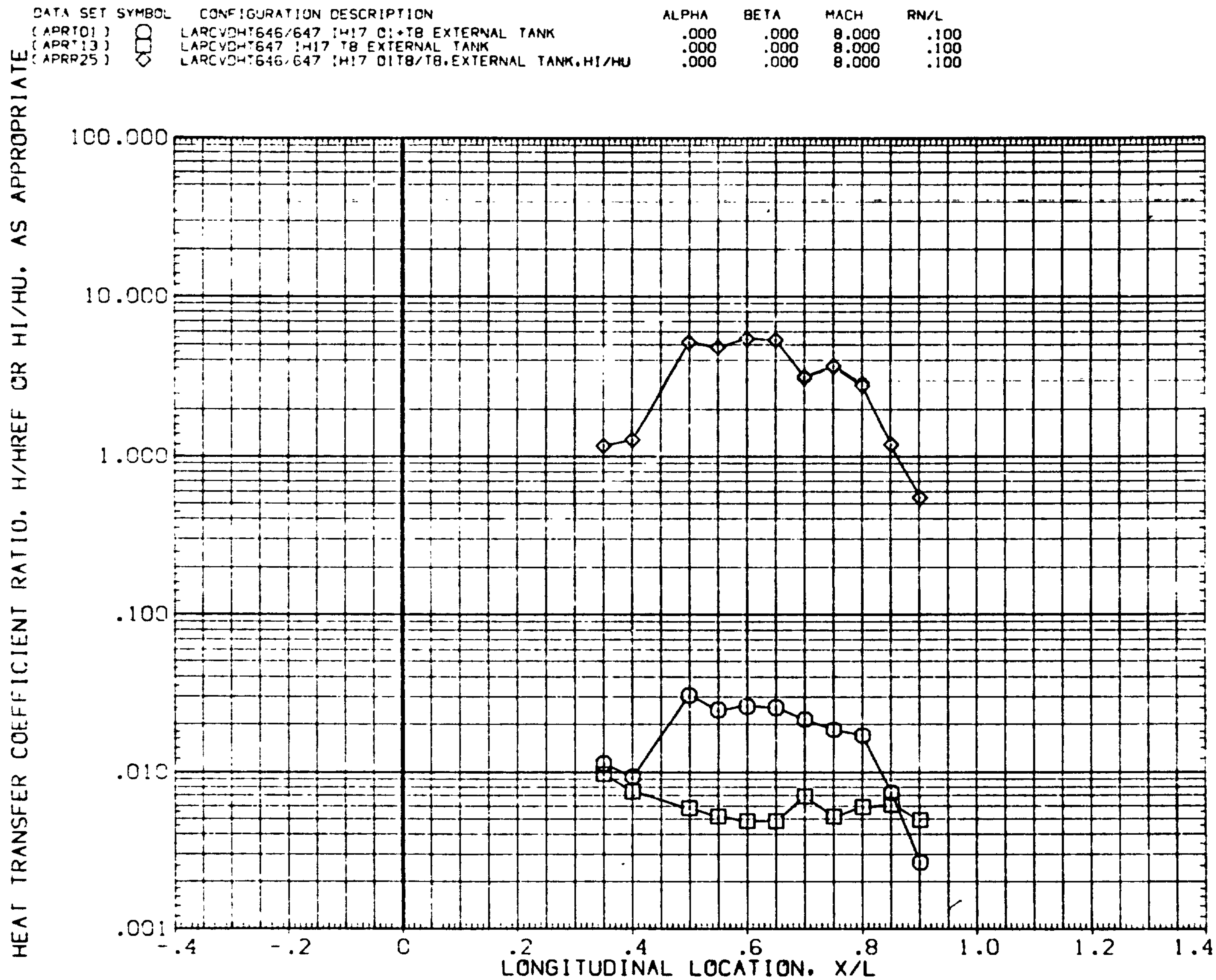


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 PHI = 135.000

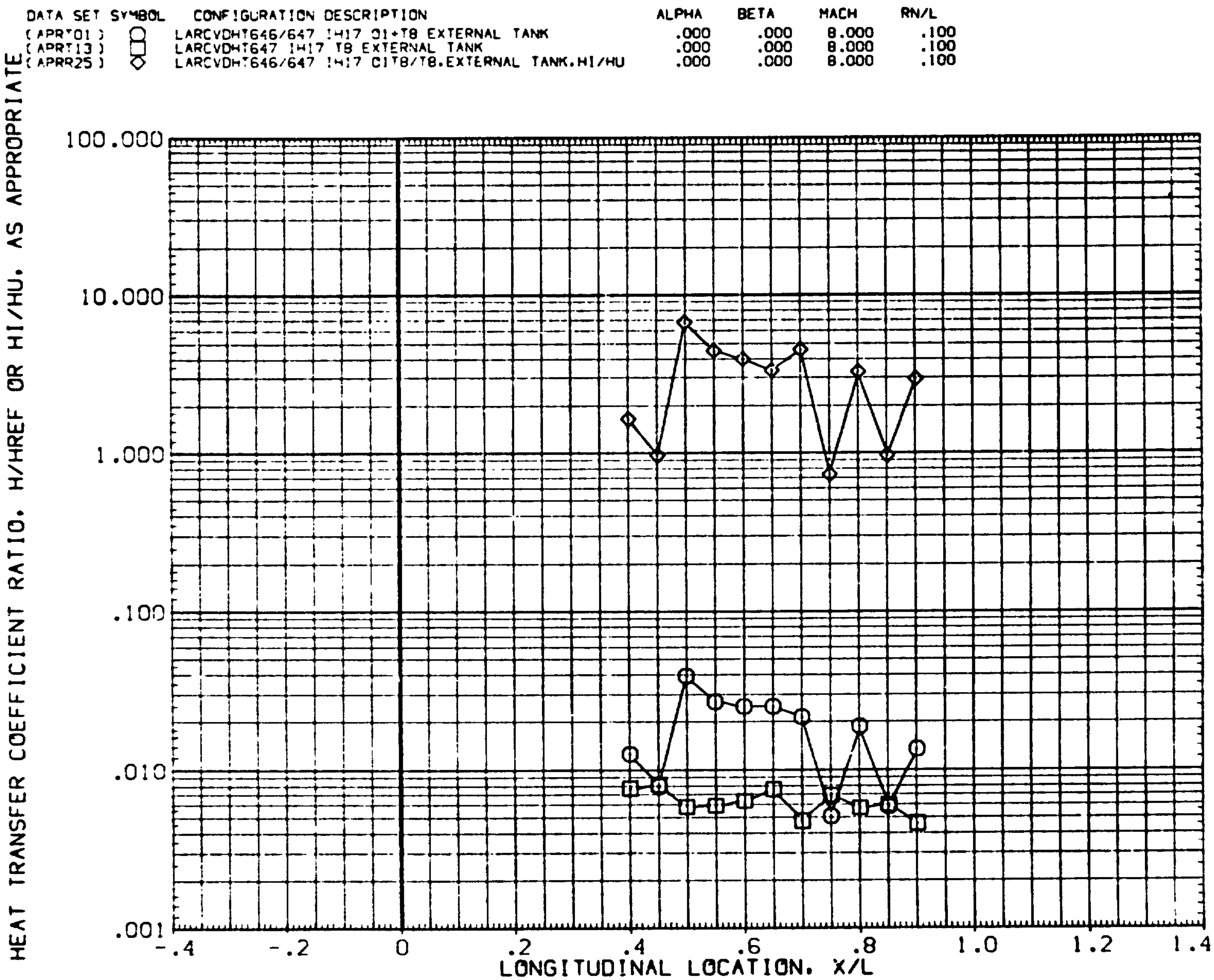


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 PHI = 157.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT01)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	.100
(APRT13)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	.100
(APRR25)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	.100

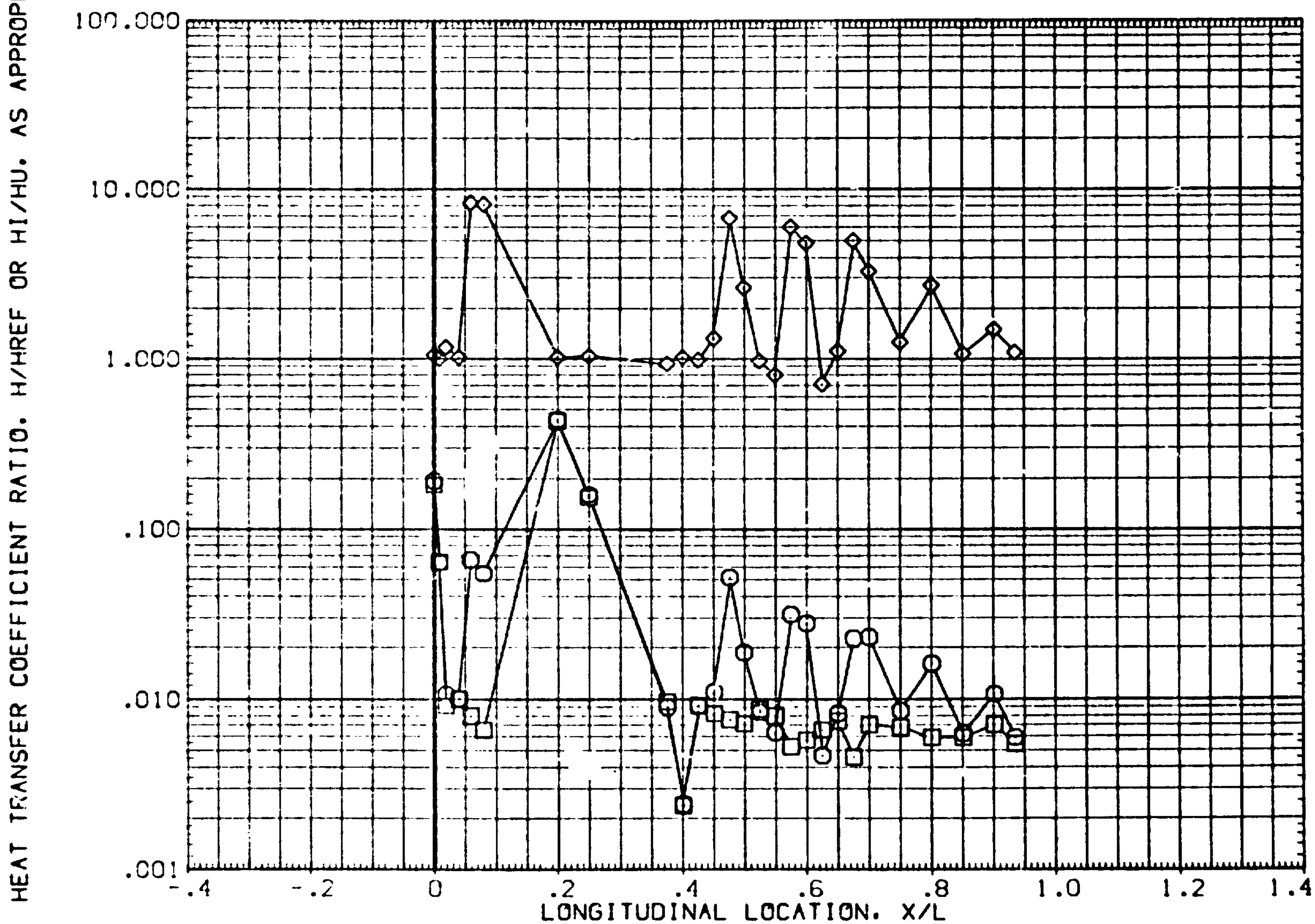


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 PHI = 180.000

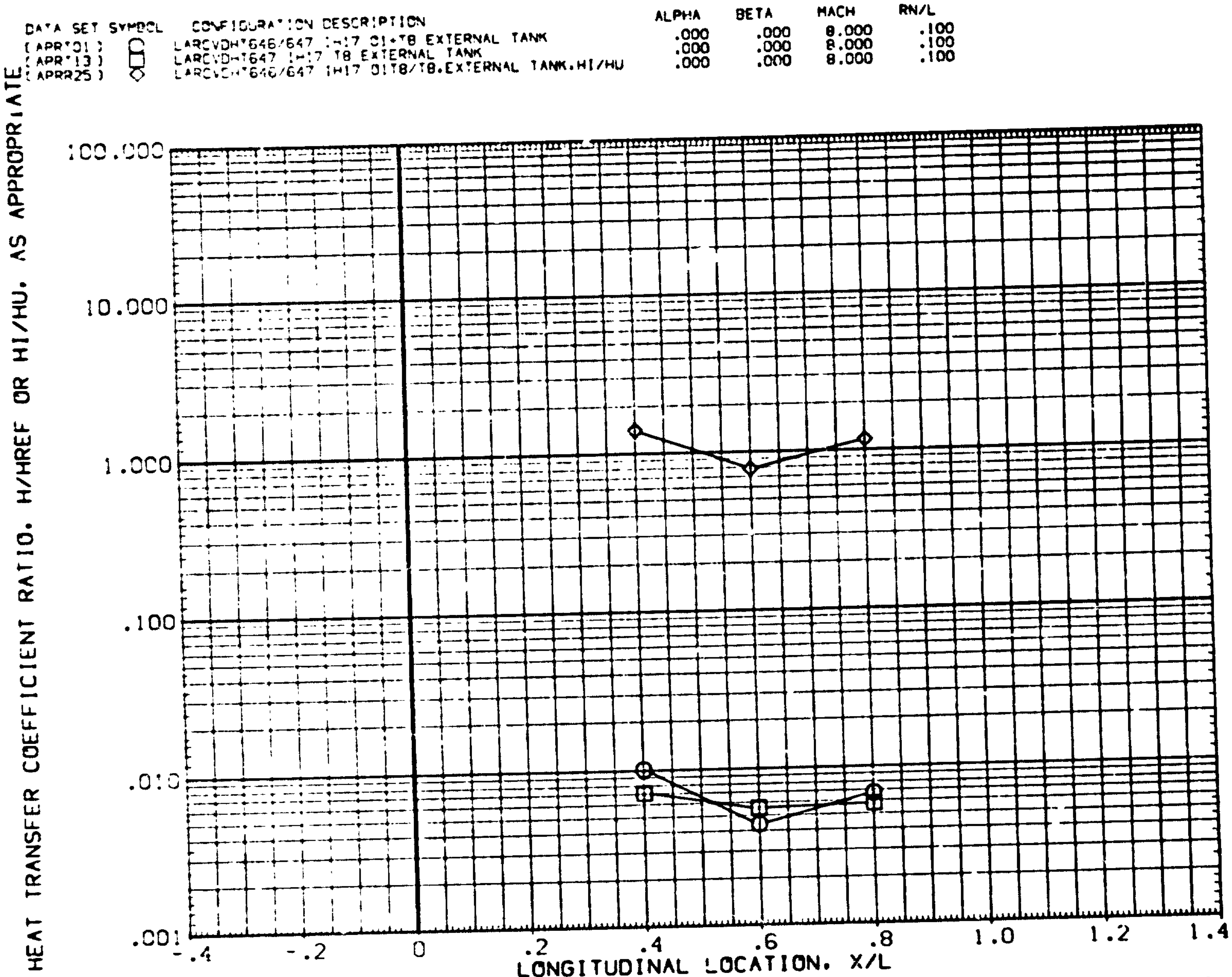


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = .000

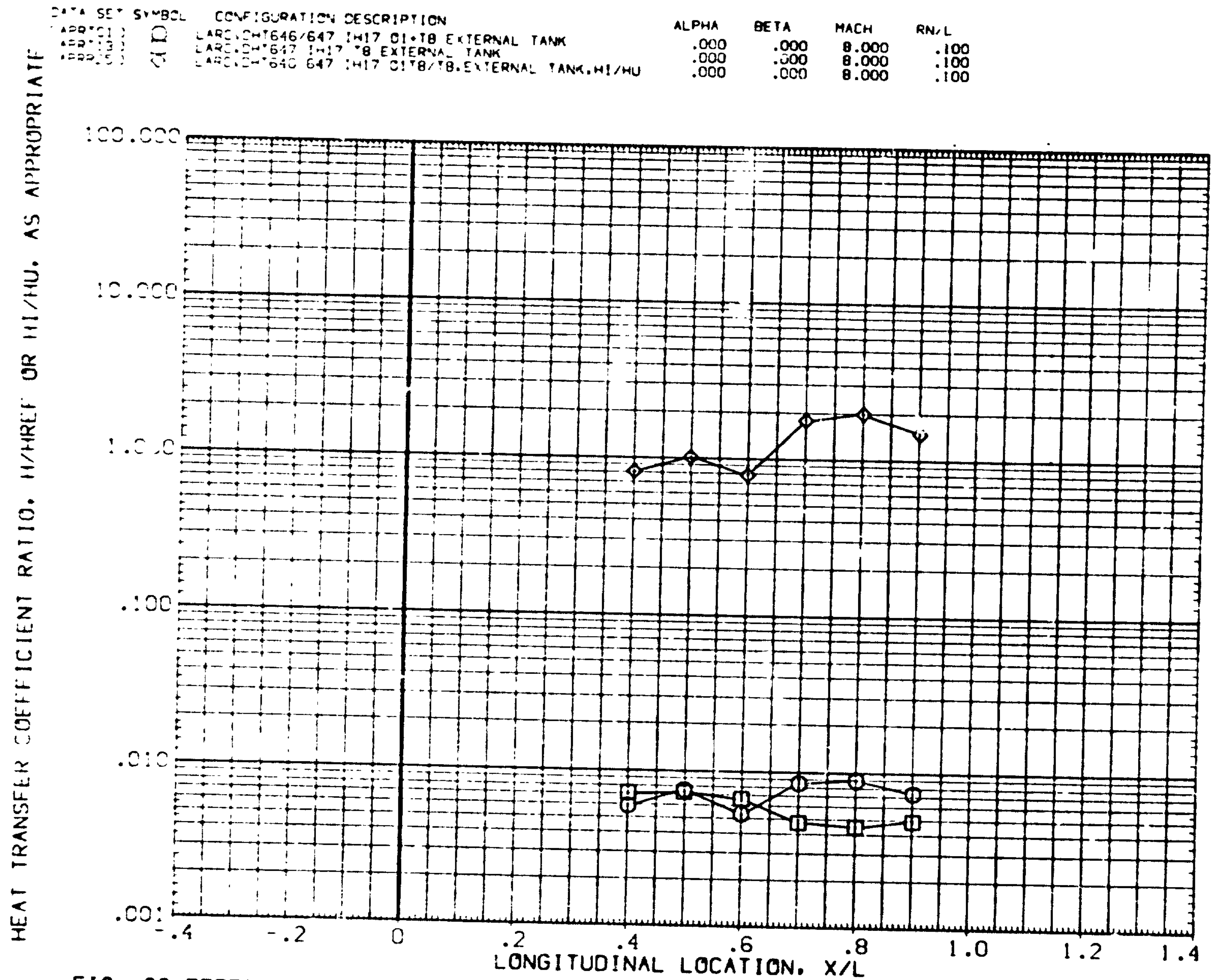


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = 45.000

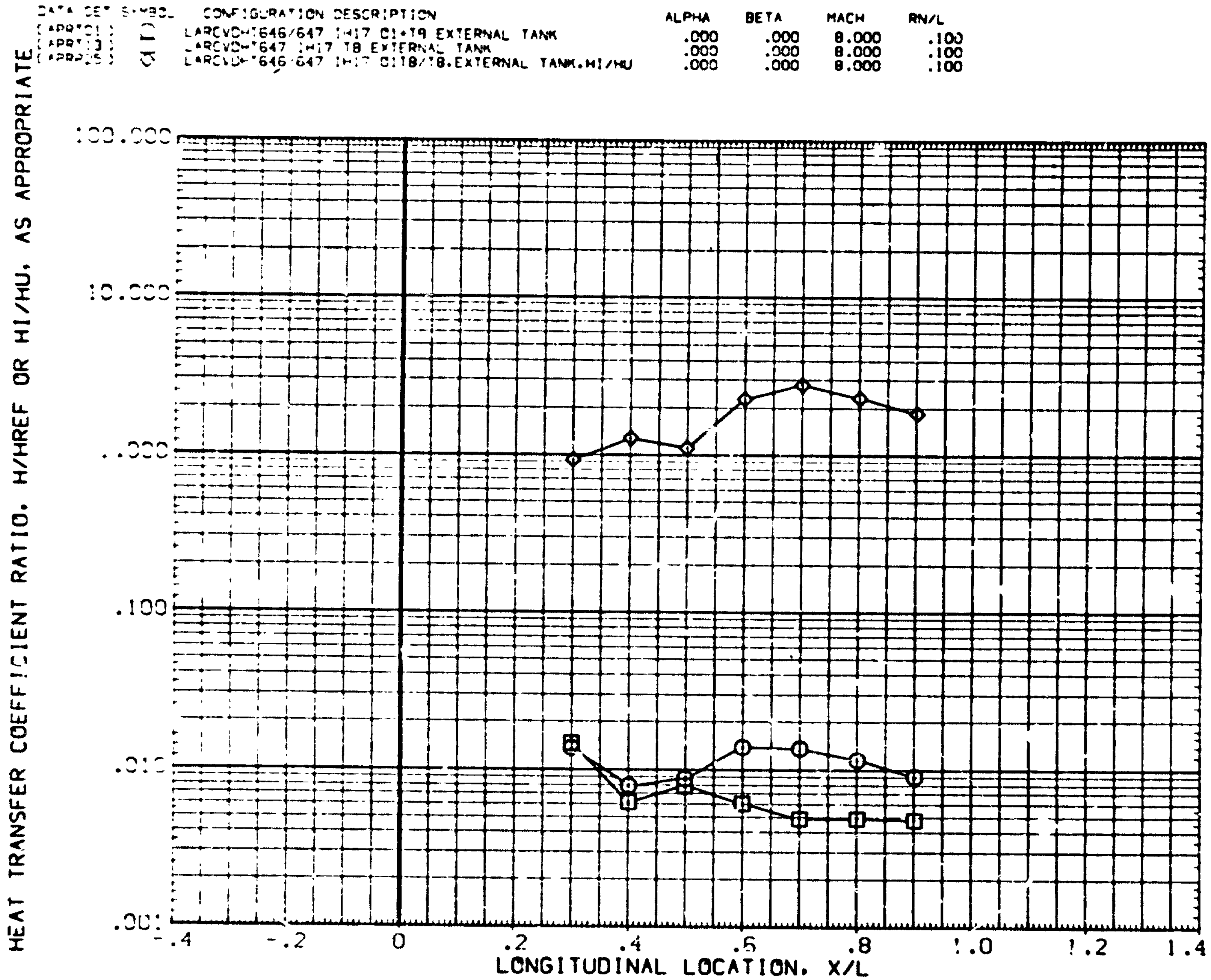


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT = .900 PHI = 67.500

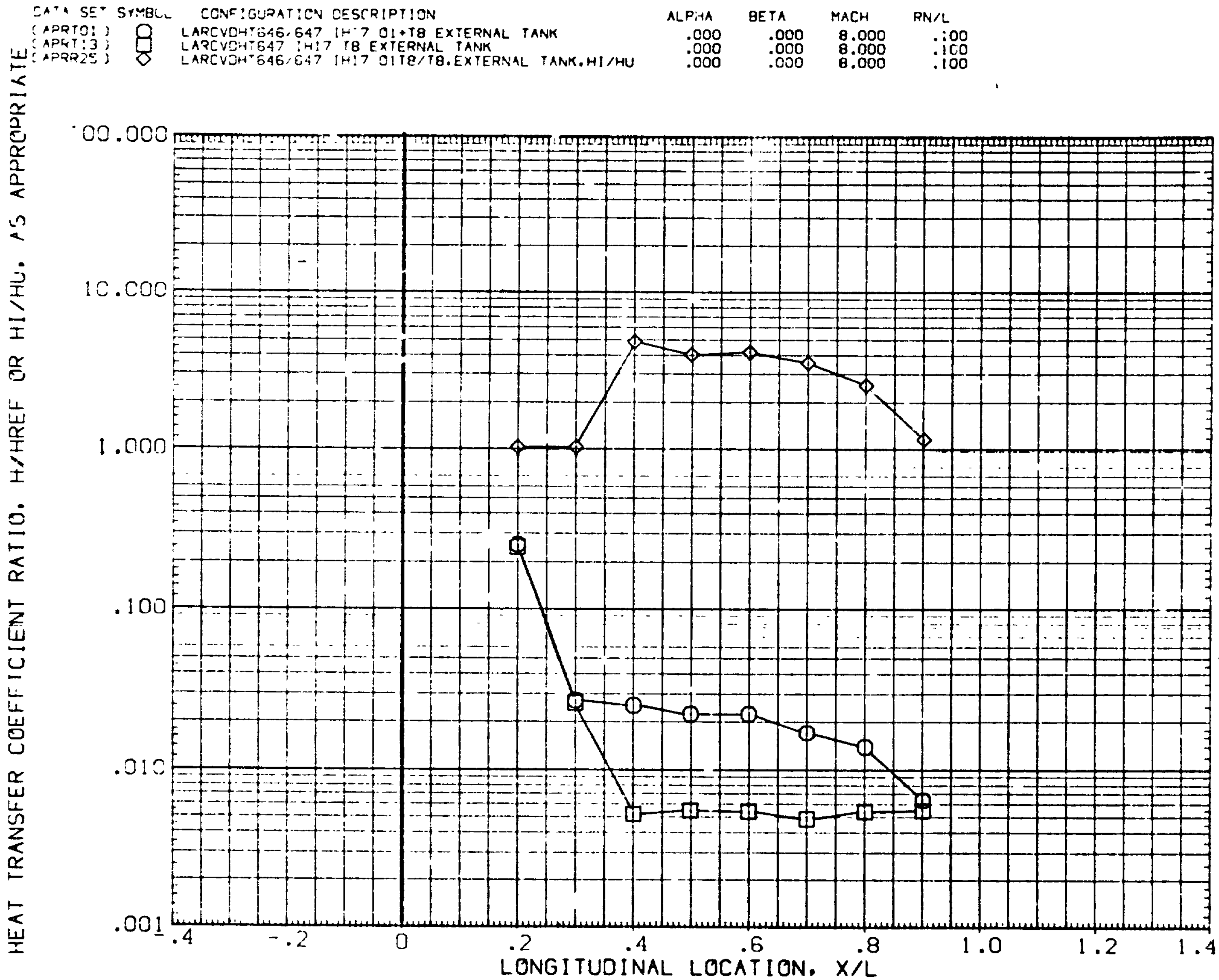


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = 90.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT01)	○	LARC/DHT646/647 (H17 O1+T8 EXTERNAL TANK	.000	.000	8.000	.100
(APRT13)	□	LARC/DHT647 (H17 T8 EXTERNAL TANK	.000	.000	8.000	.100
(APRR25)	◇	LARC/DHT646/647 (H17 O1T8/T8,EXTERNAL TANK,HI/HU	.000	.000	8.000	.100

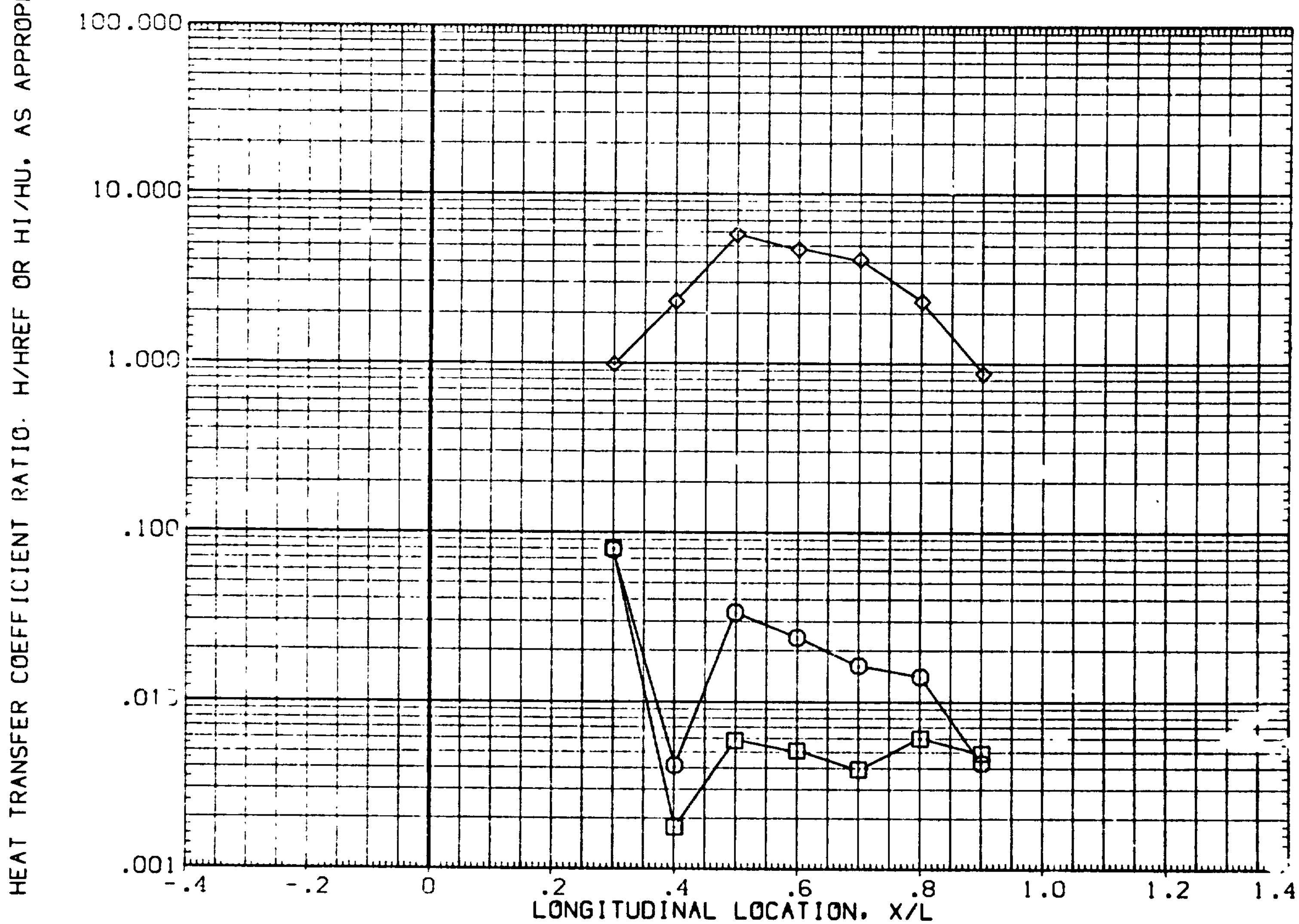


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = 112.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRC01)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	.100
(APRT13)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	.100
(APRR25)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK,HI/HU	.000	.000	8.000	.100

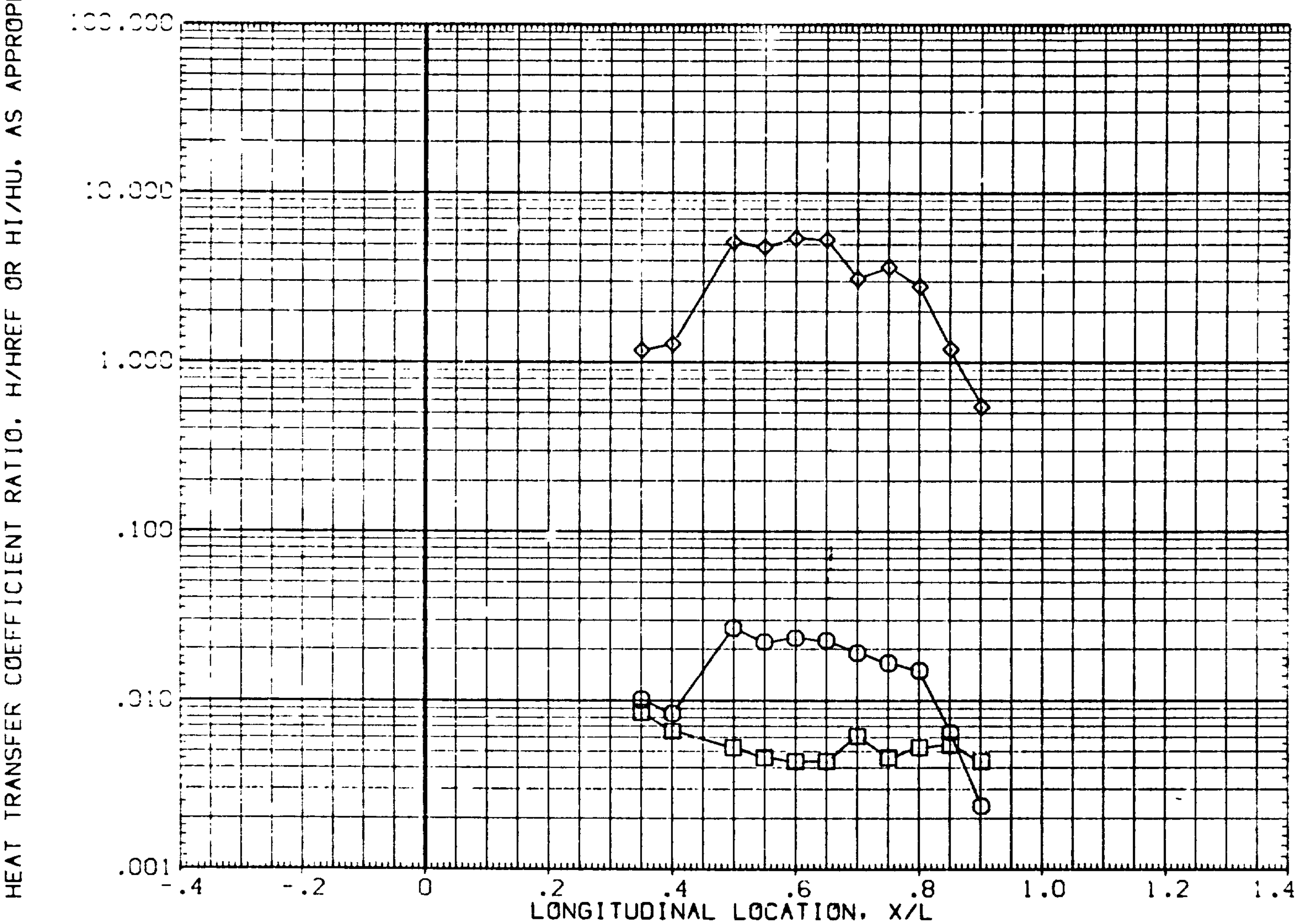


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = 135.000

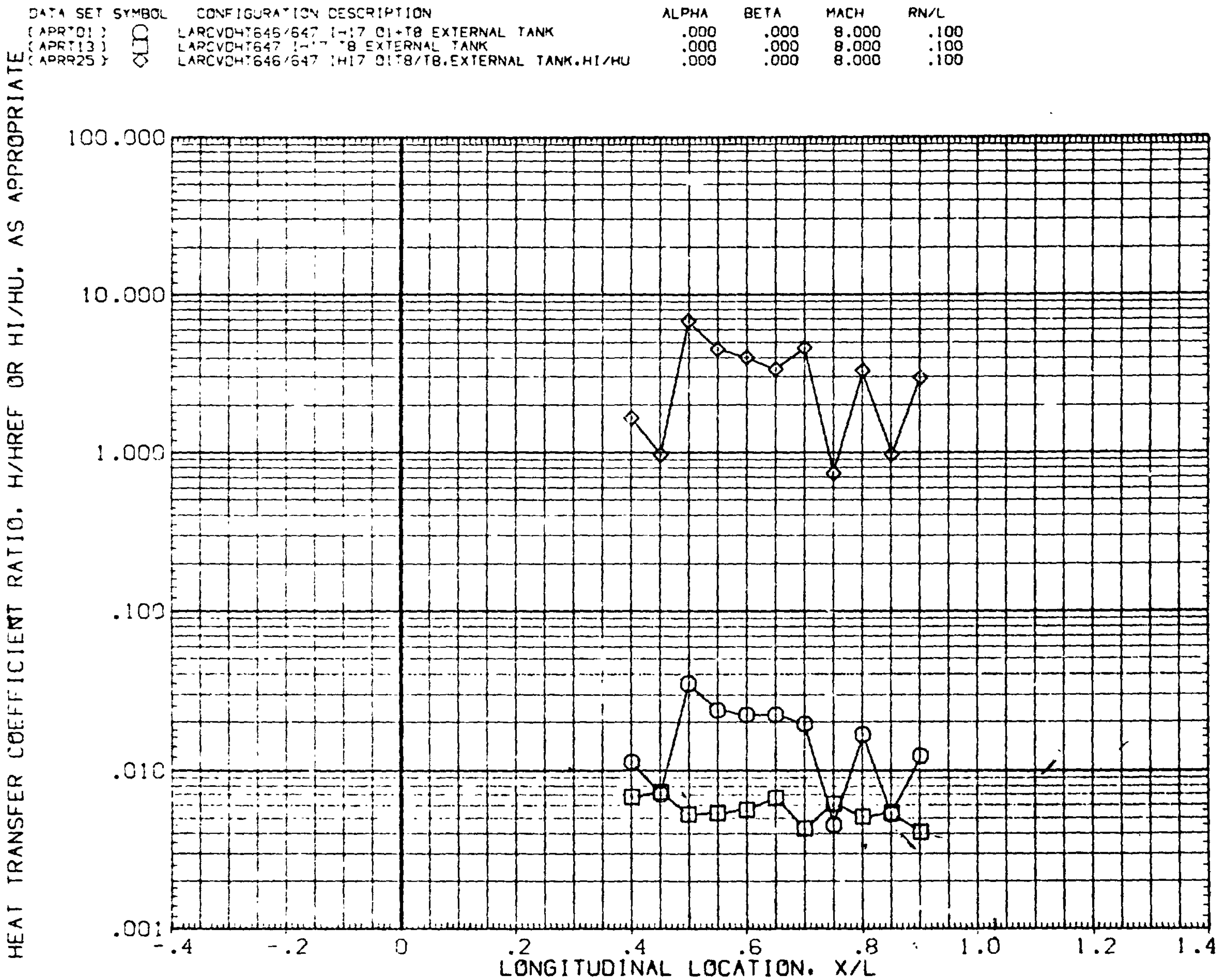


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = 157.500

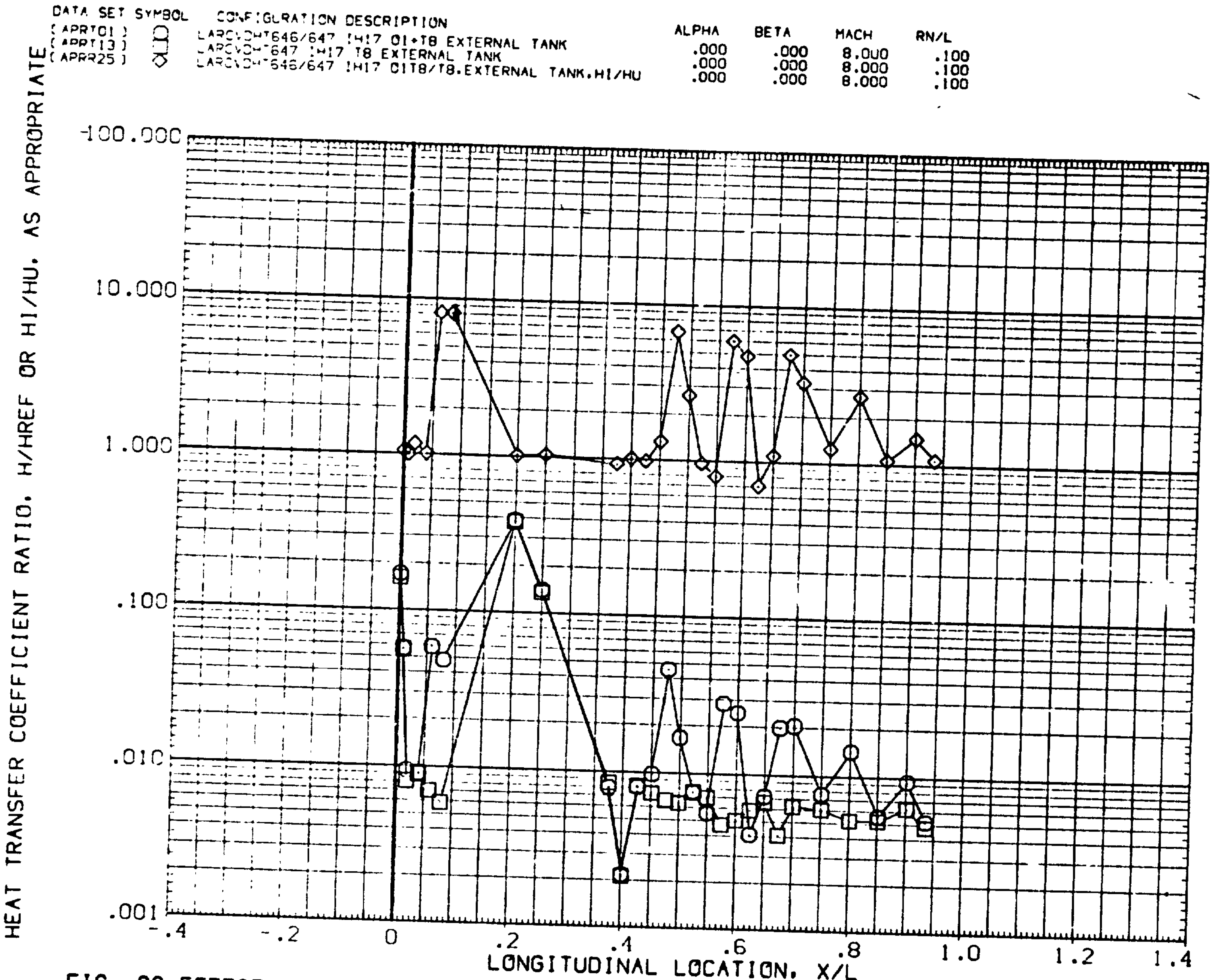


FIG. 28 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT02)	○	LARCVDHT646/647 IH17 OI+T8 EXTERNAL TANK	.000	.000	8.000	.500
(APRT14)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	.500
(APRP26)	◇	LARCVDHT646/647 IH17 OIT8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	.500

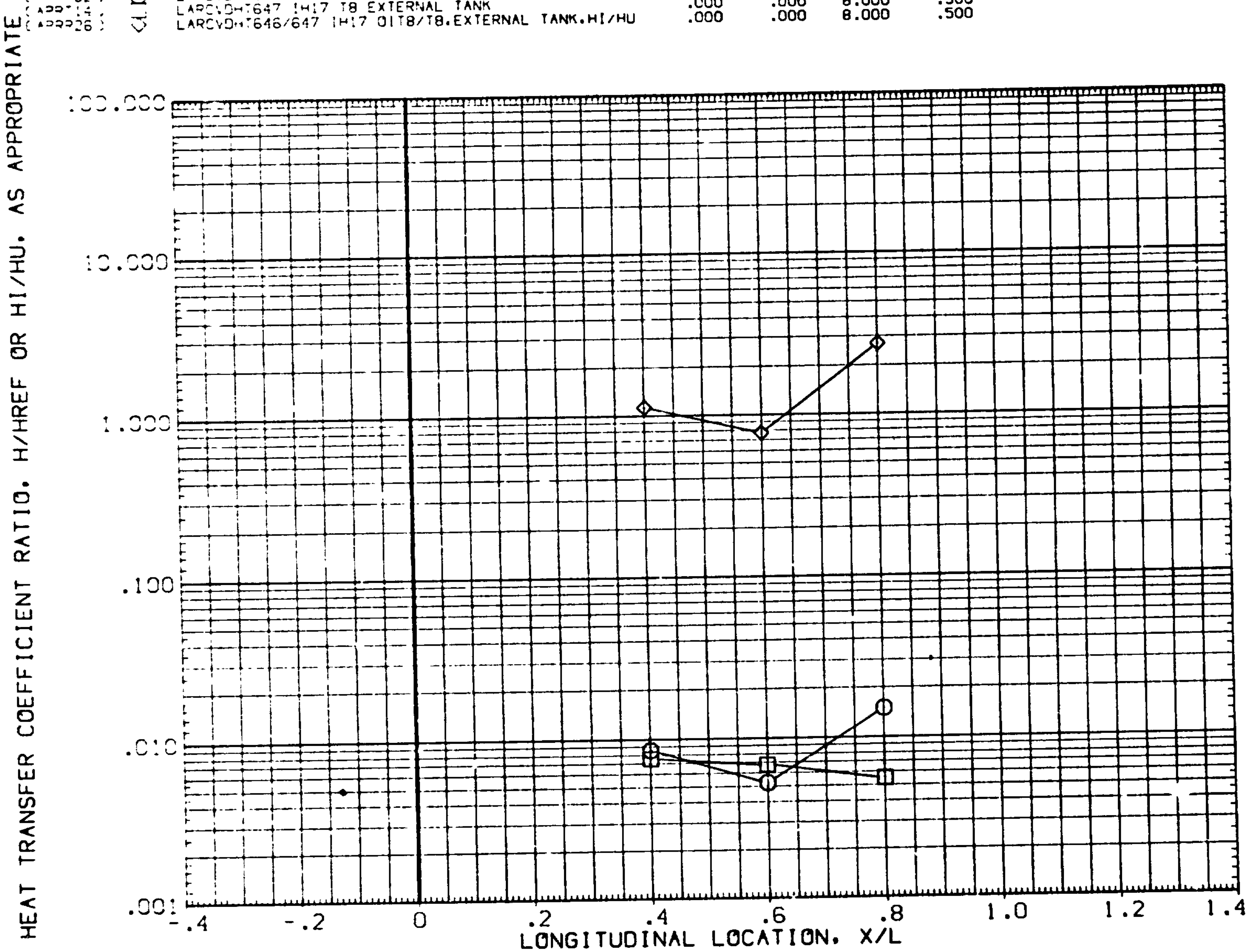


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = .000

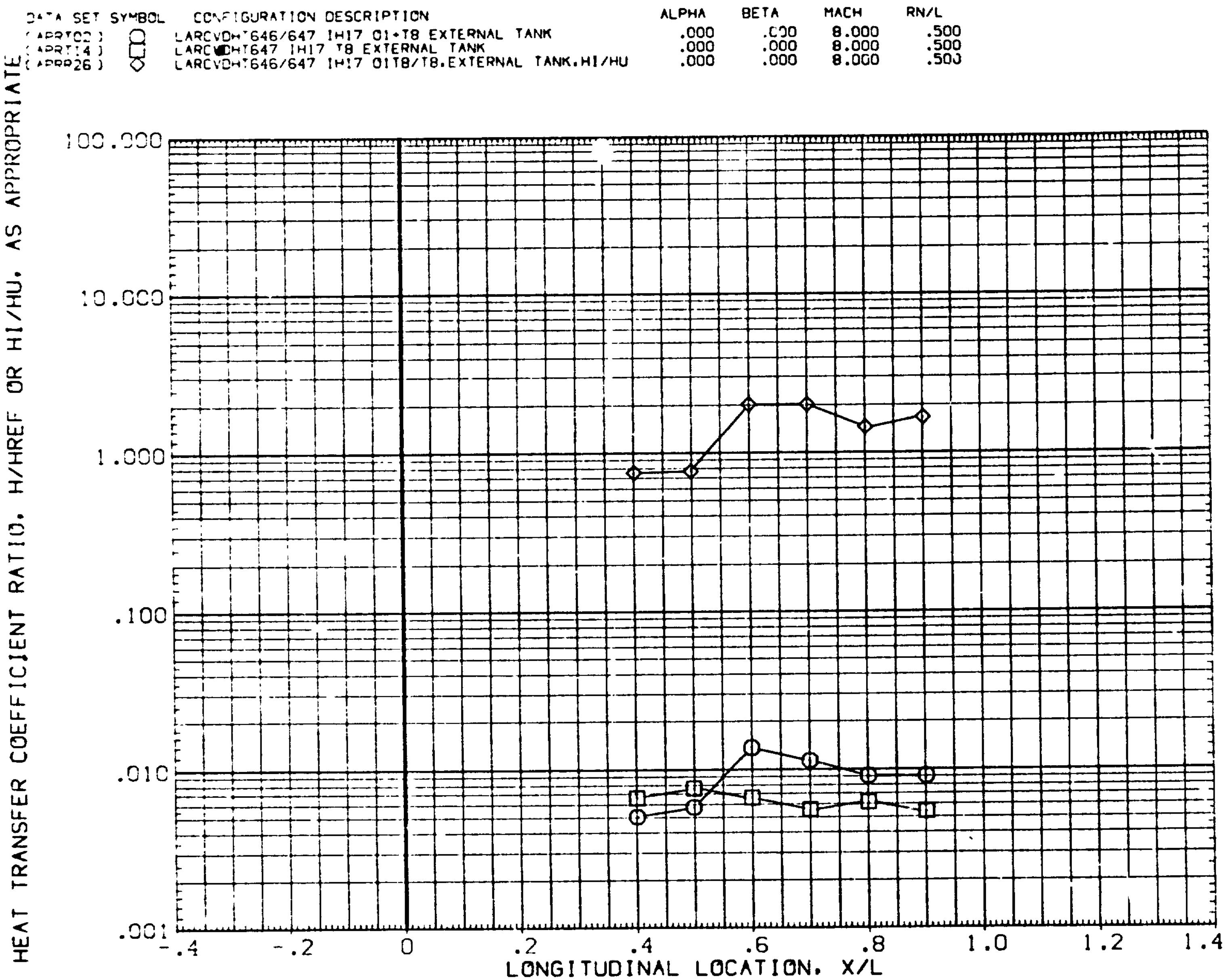


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = 45.000

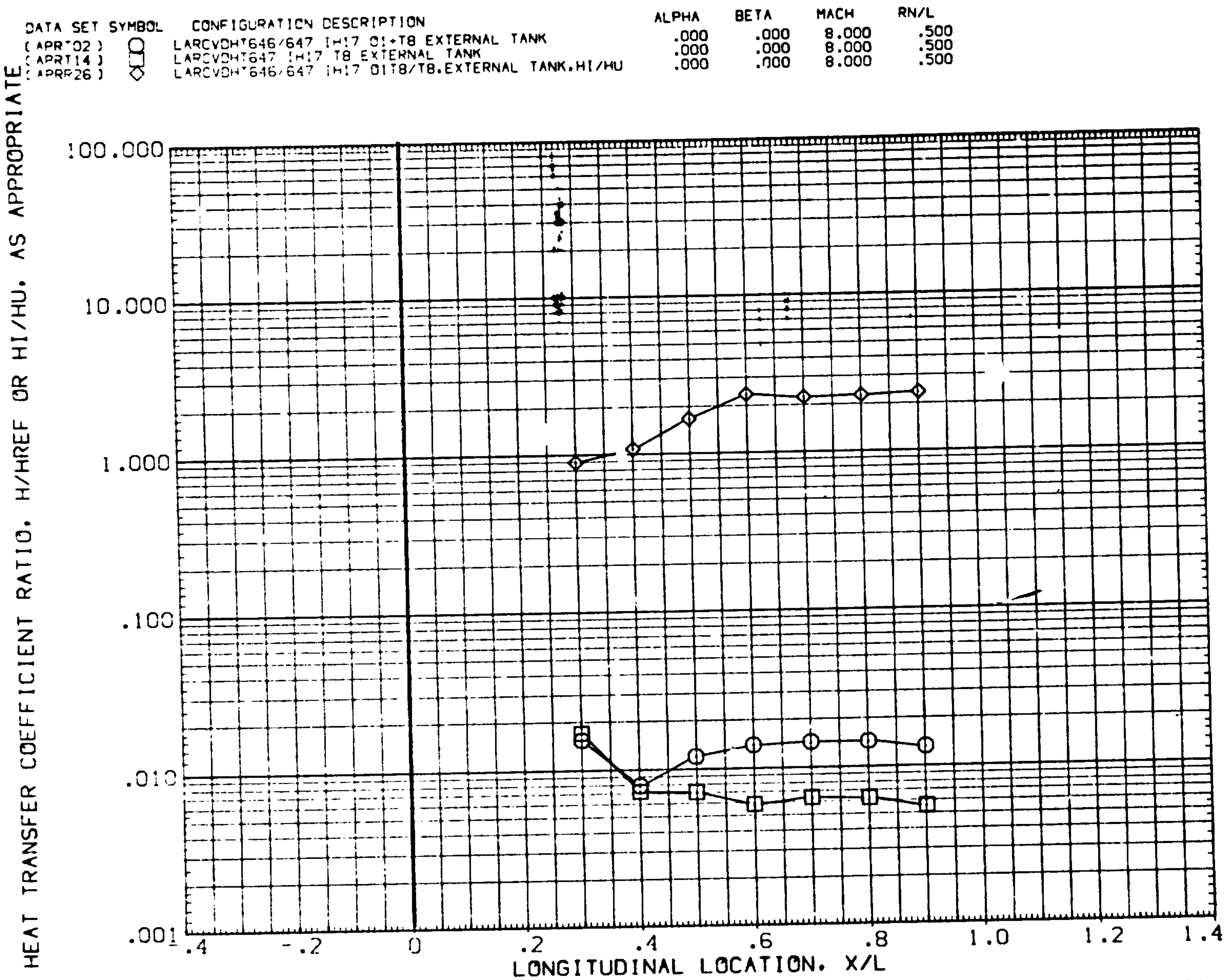


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = 67.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT02)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	.500
(APRT14)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	.500
(APRR26)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK,HI/HU	.000	.000	8.000	.500

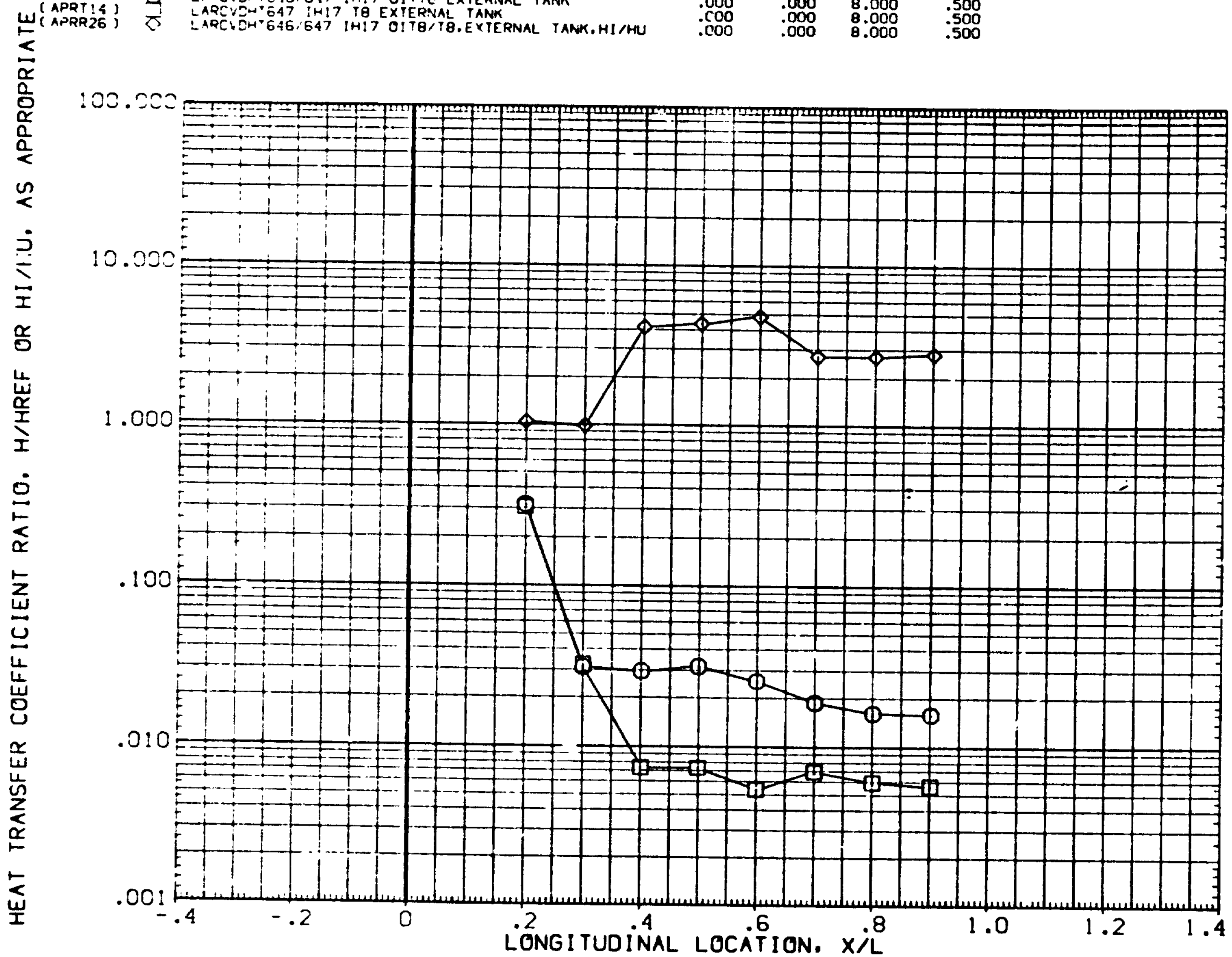


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = 90.000

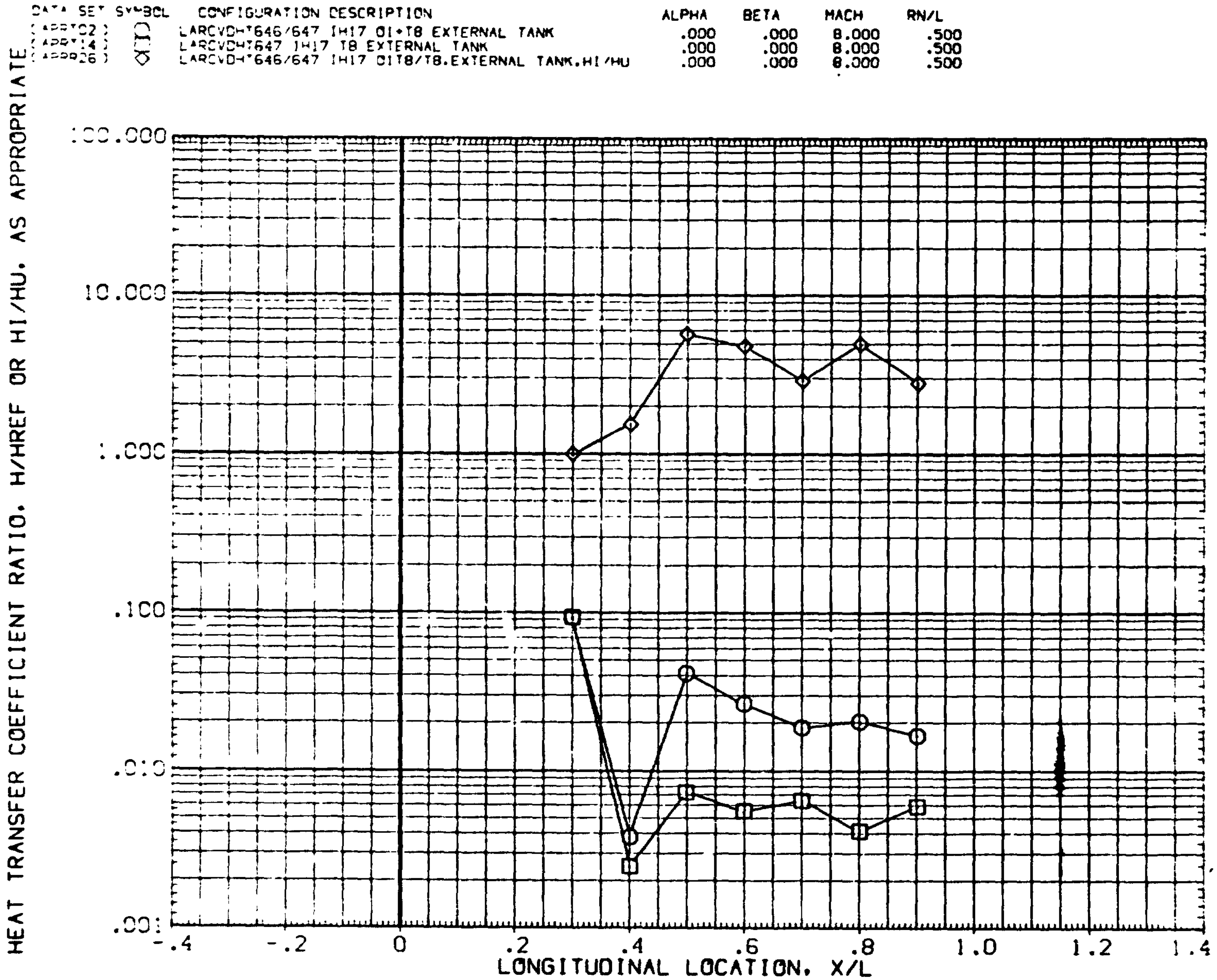


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = 112.500

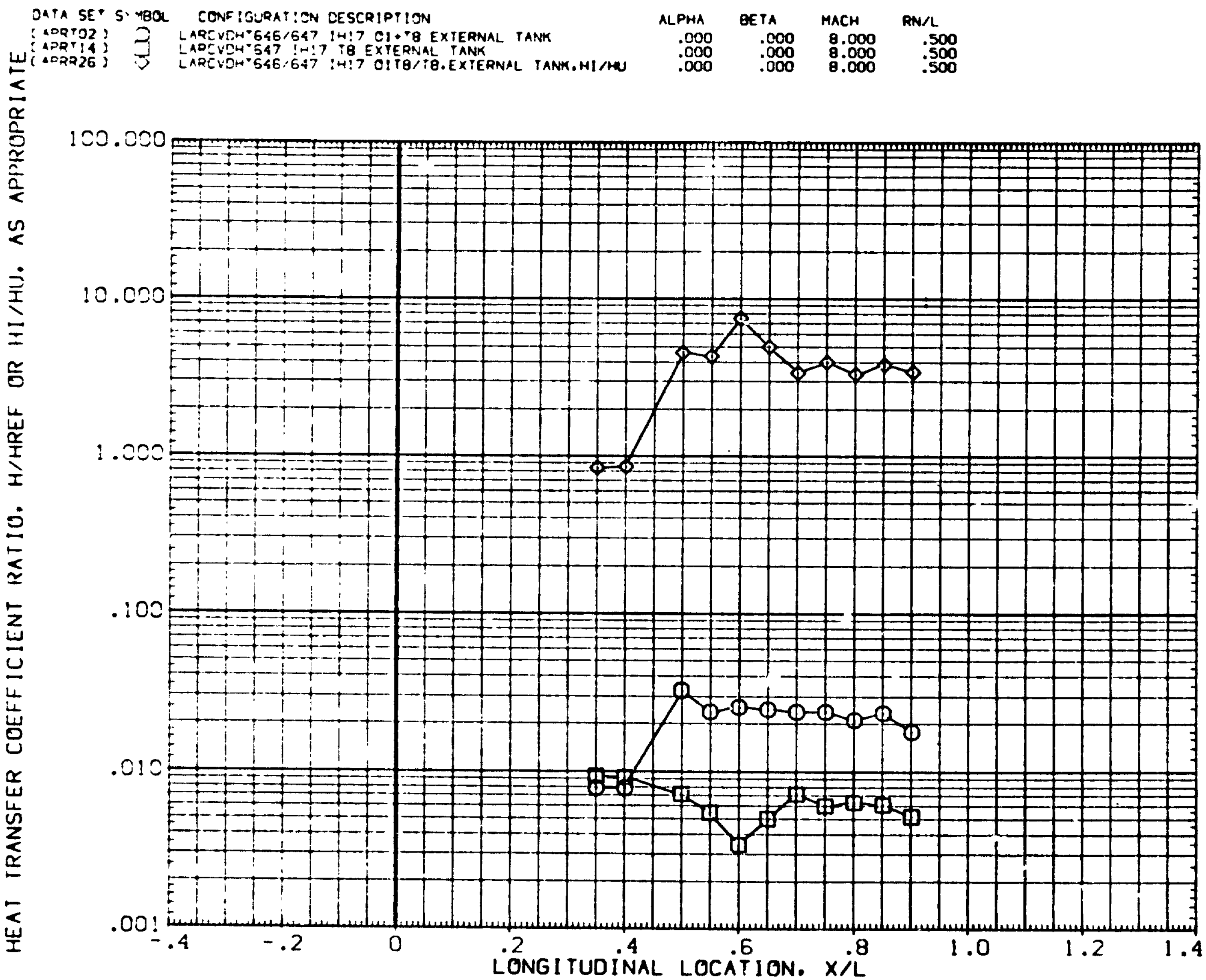


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = 135.000

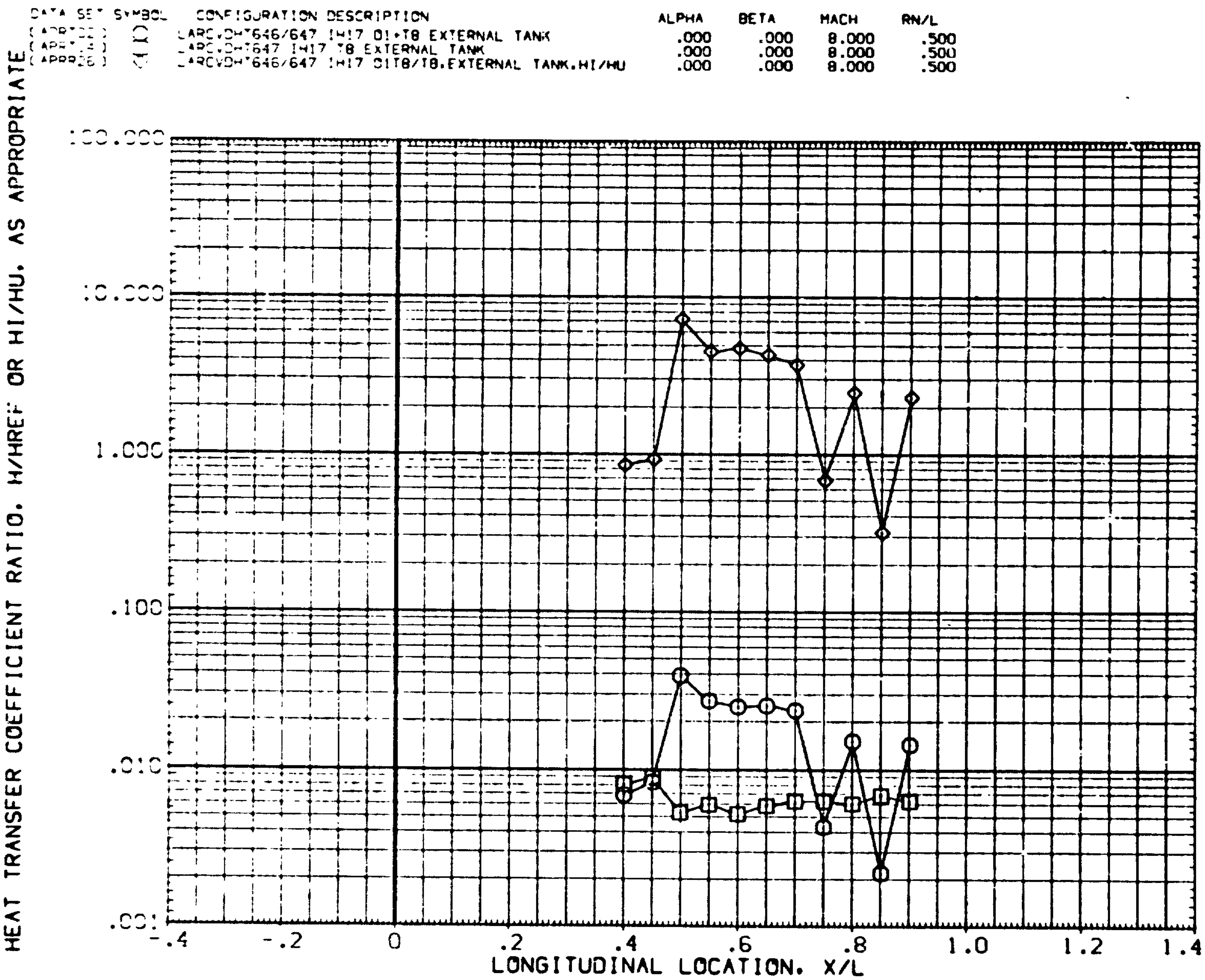


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT = .850 PHI = 157.500

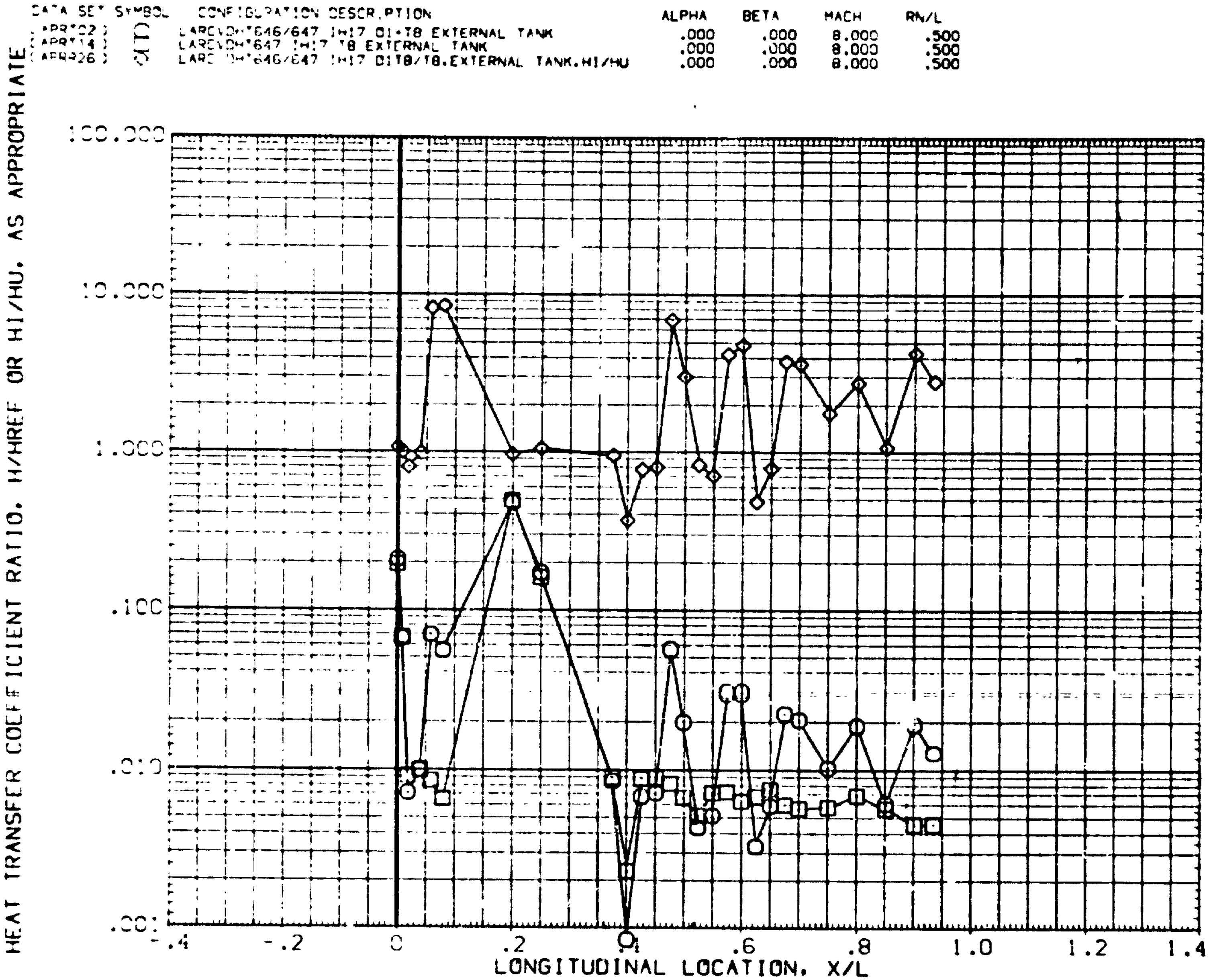


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = 180.000

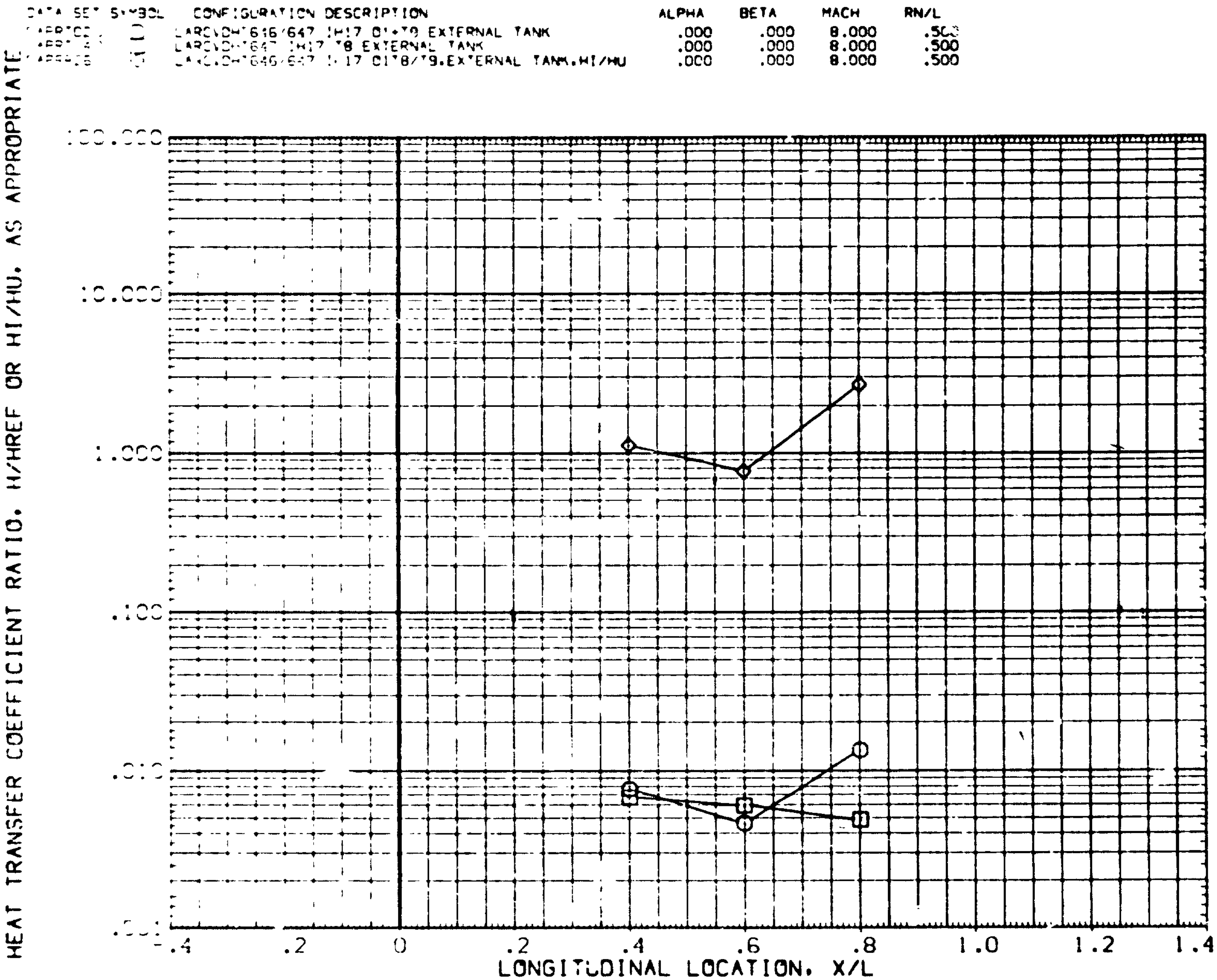


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT = .900 PHI = .000

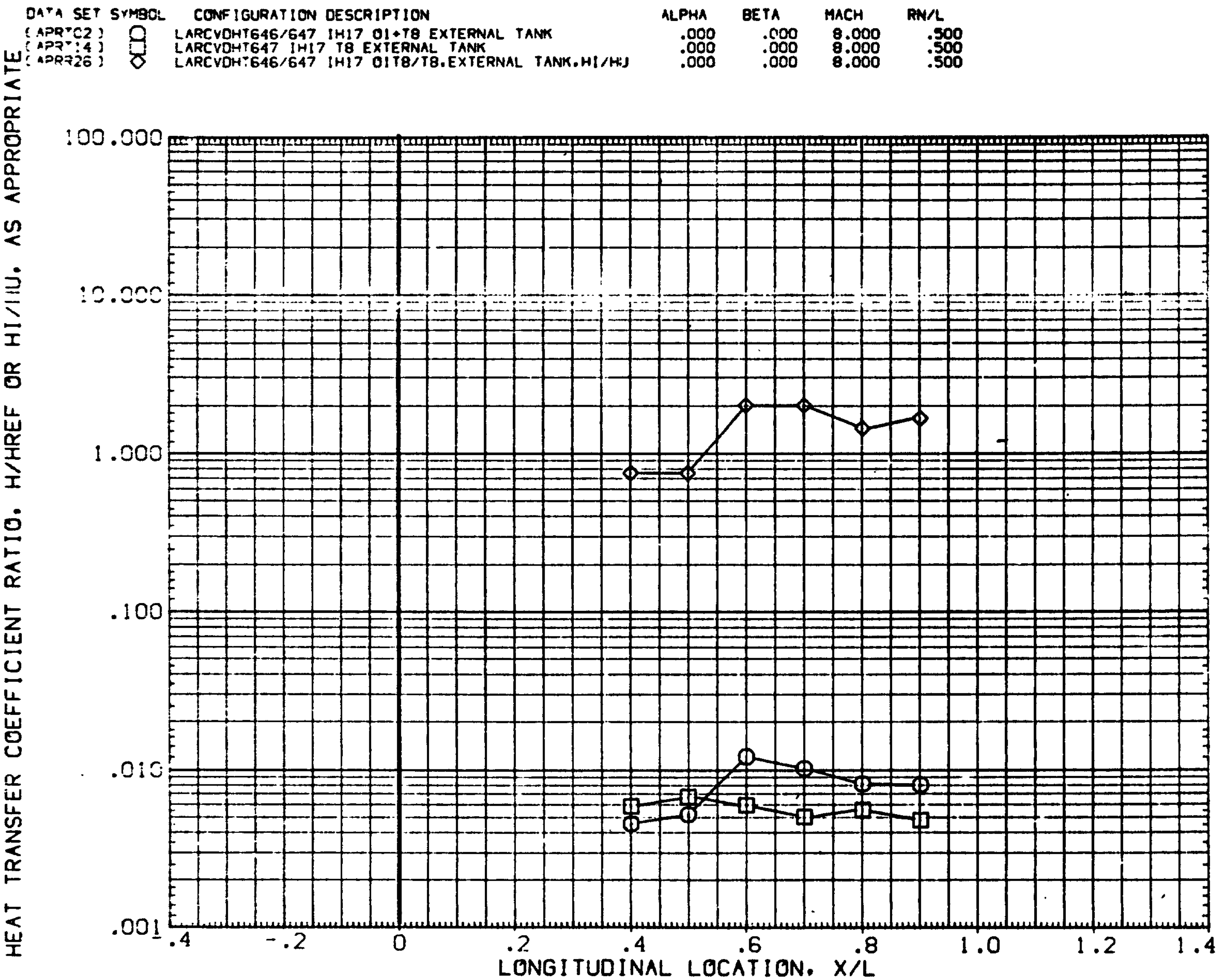


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 45.000

C-3

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT02)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	.500
(APRT14)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	.500
(APRR26)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	.500

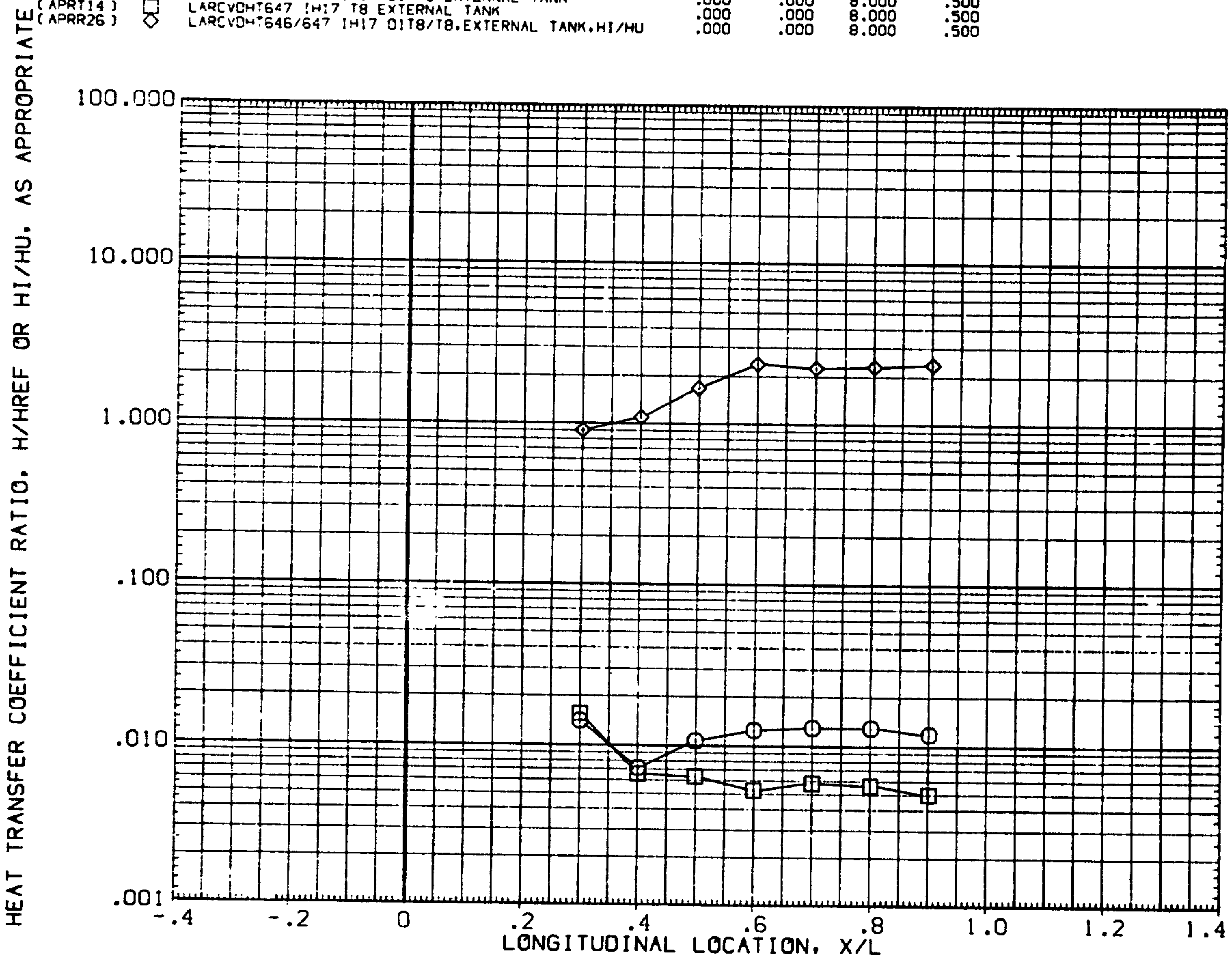


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 67.500

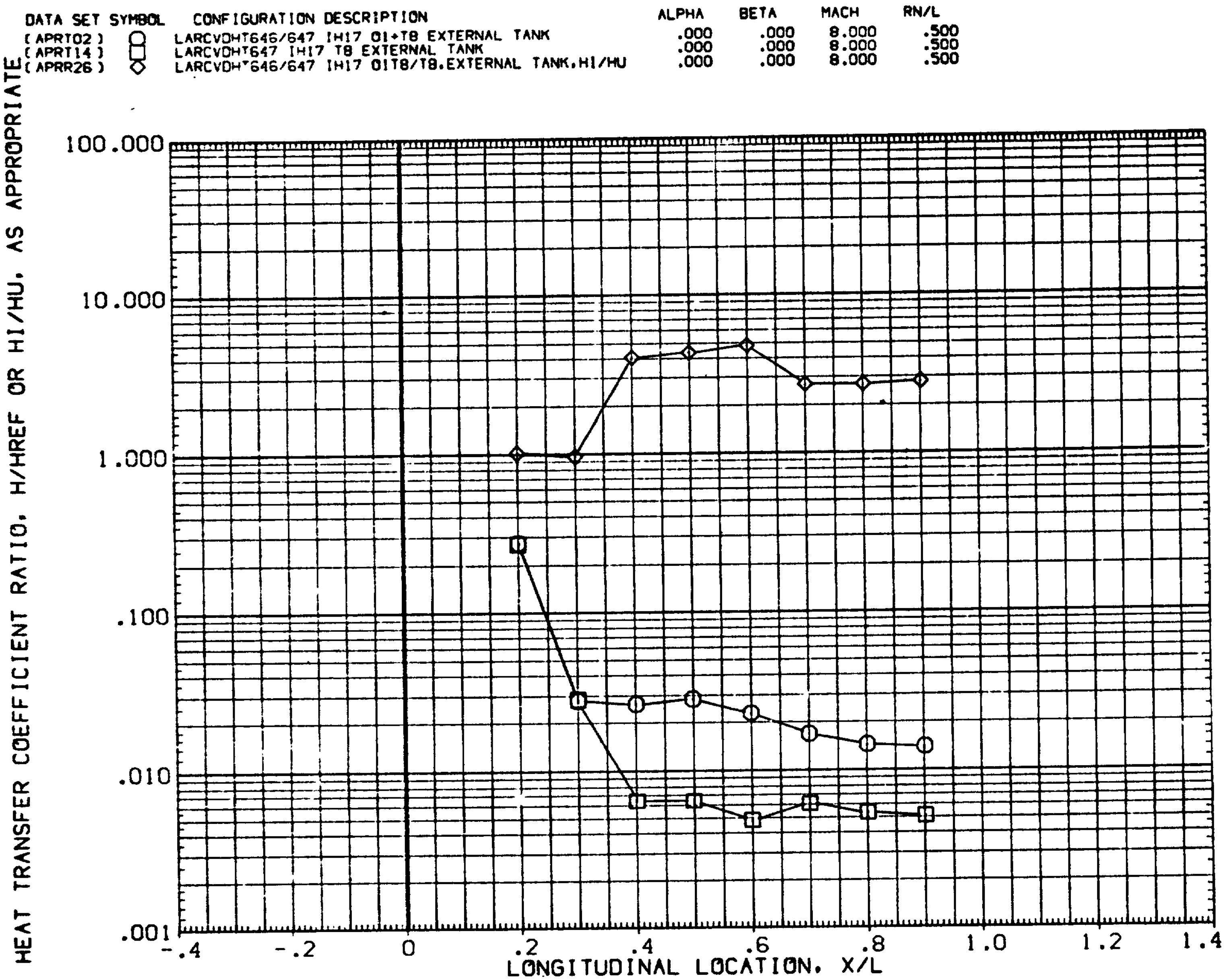


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 90.000

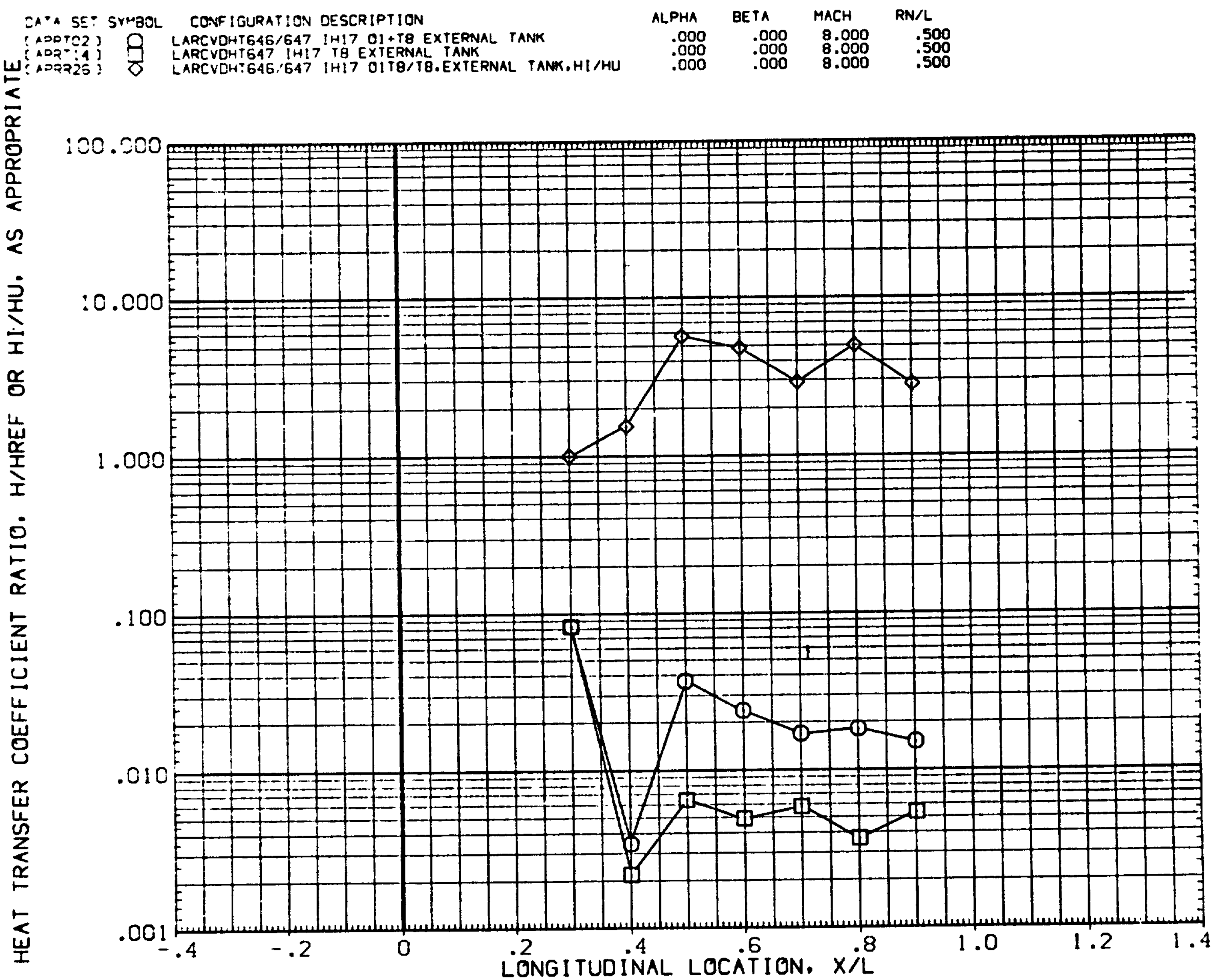


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 112.500

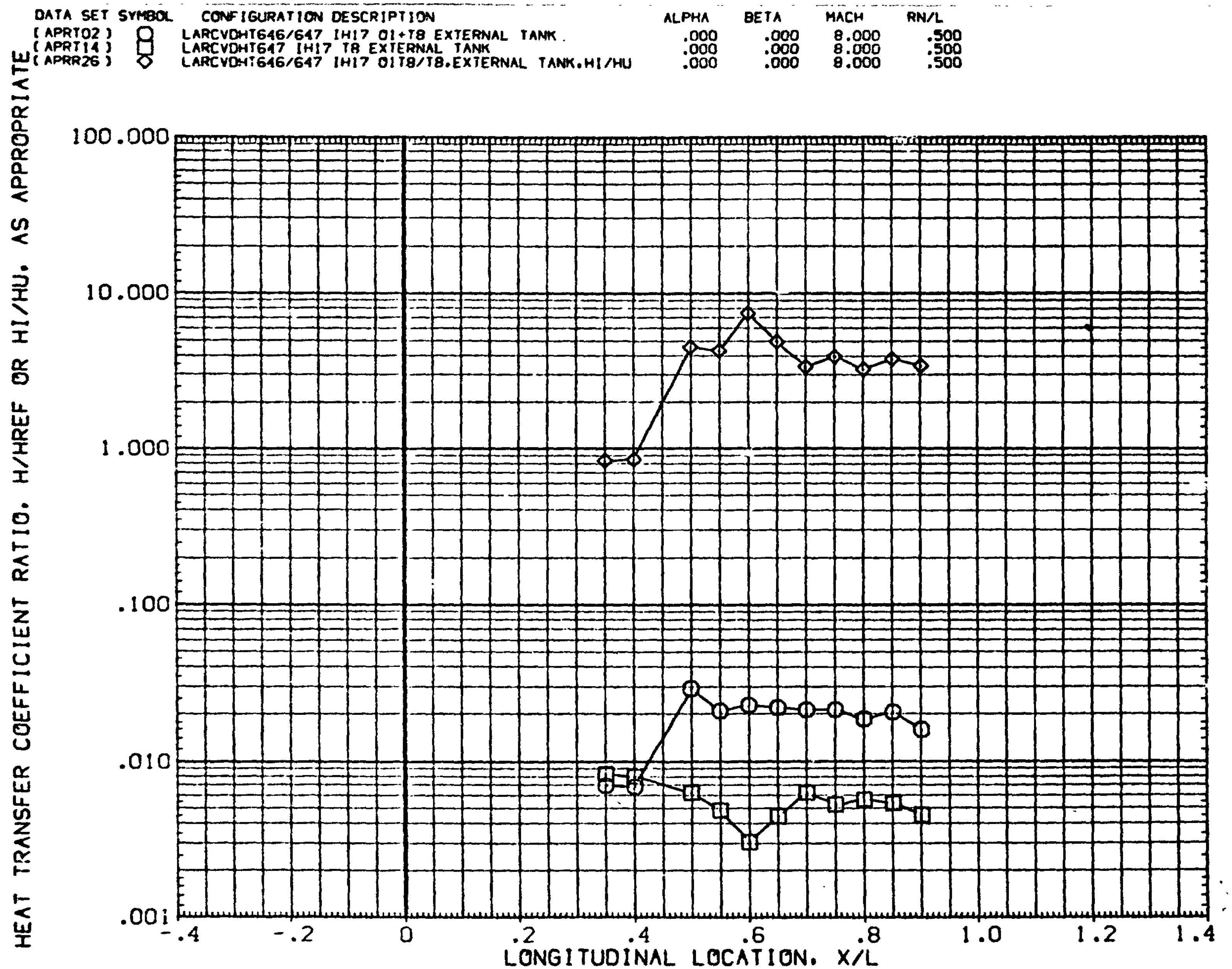


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 135.000

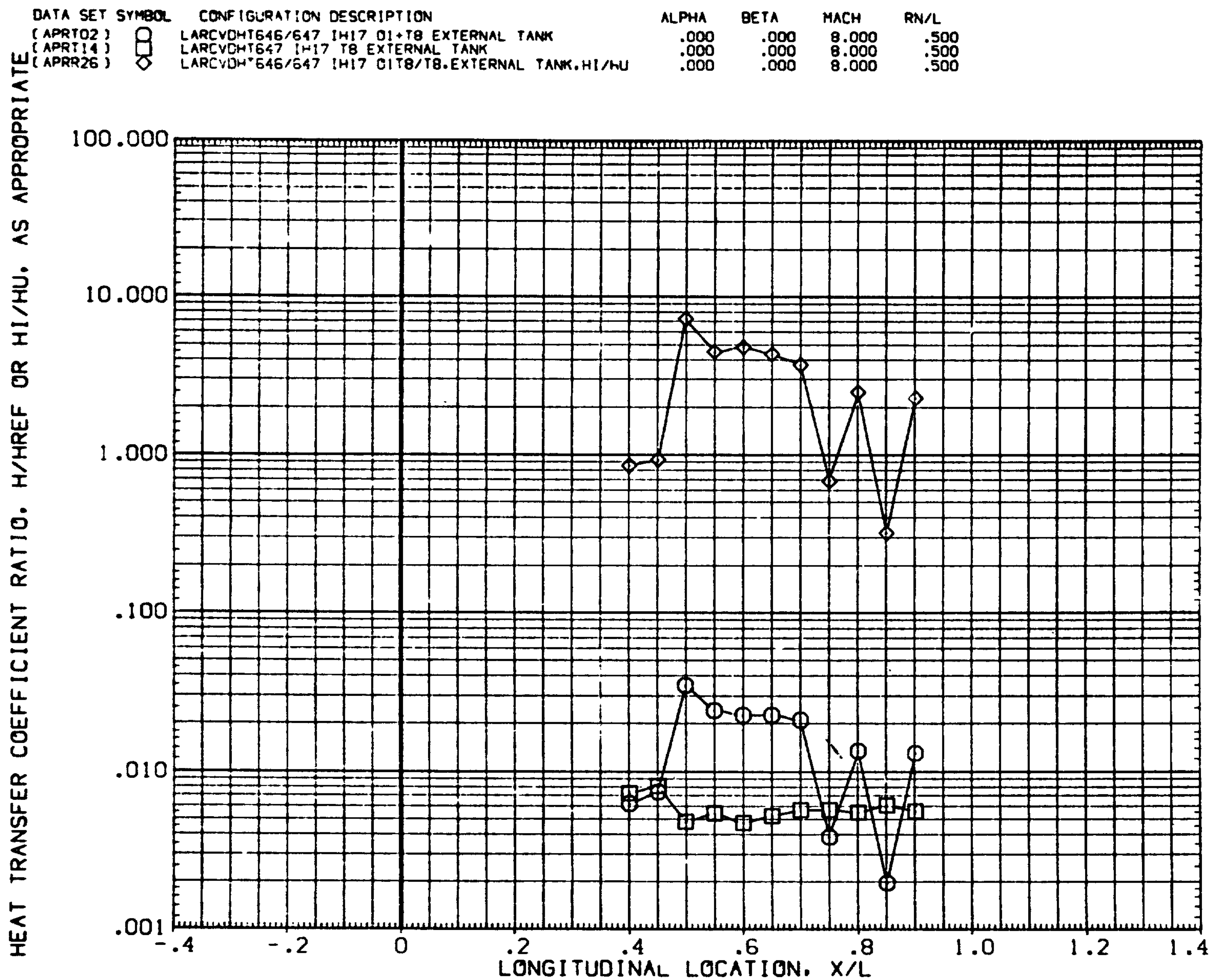


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 157.500

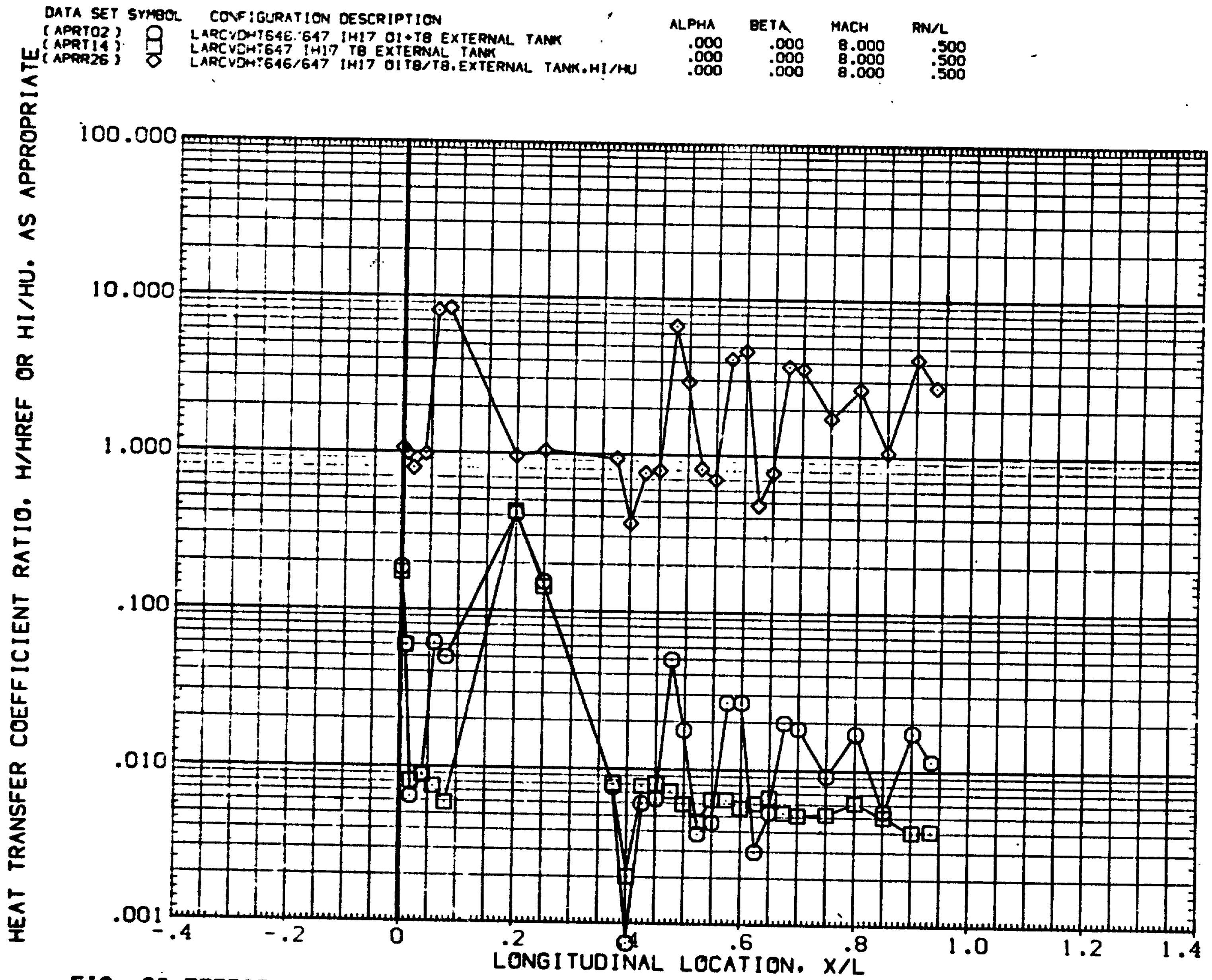


FIG. 29 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 180.000

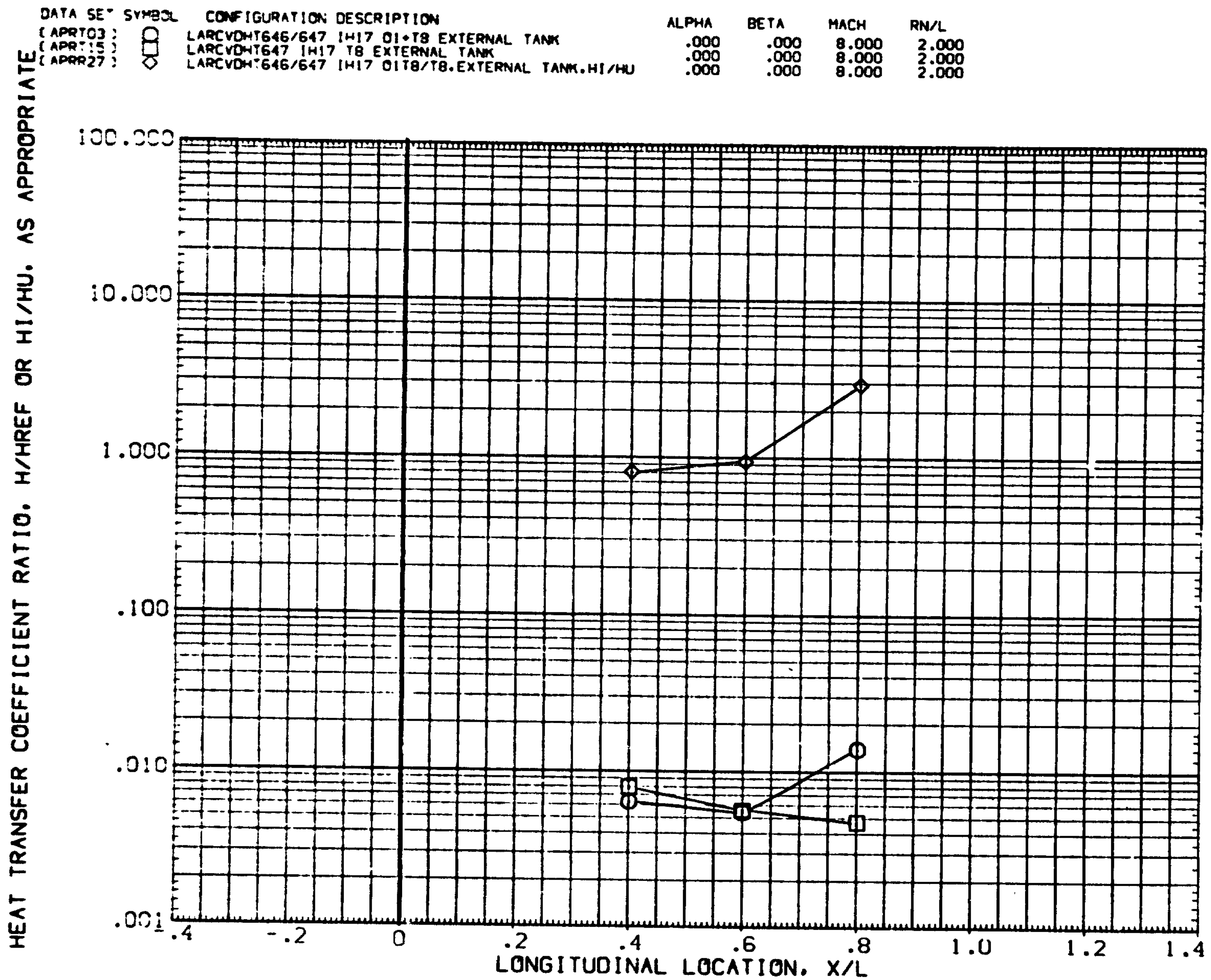


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = .000

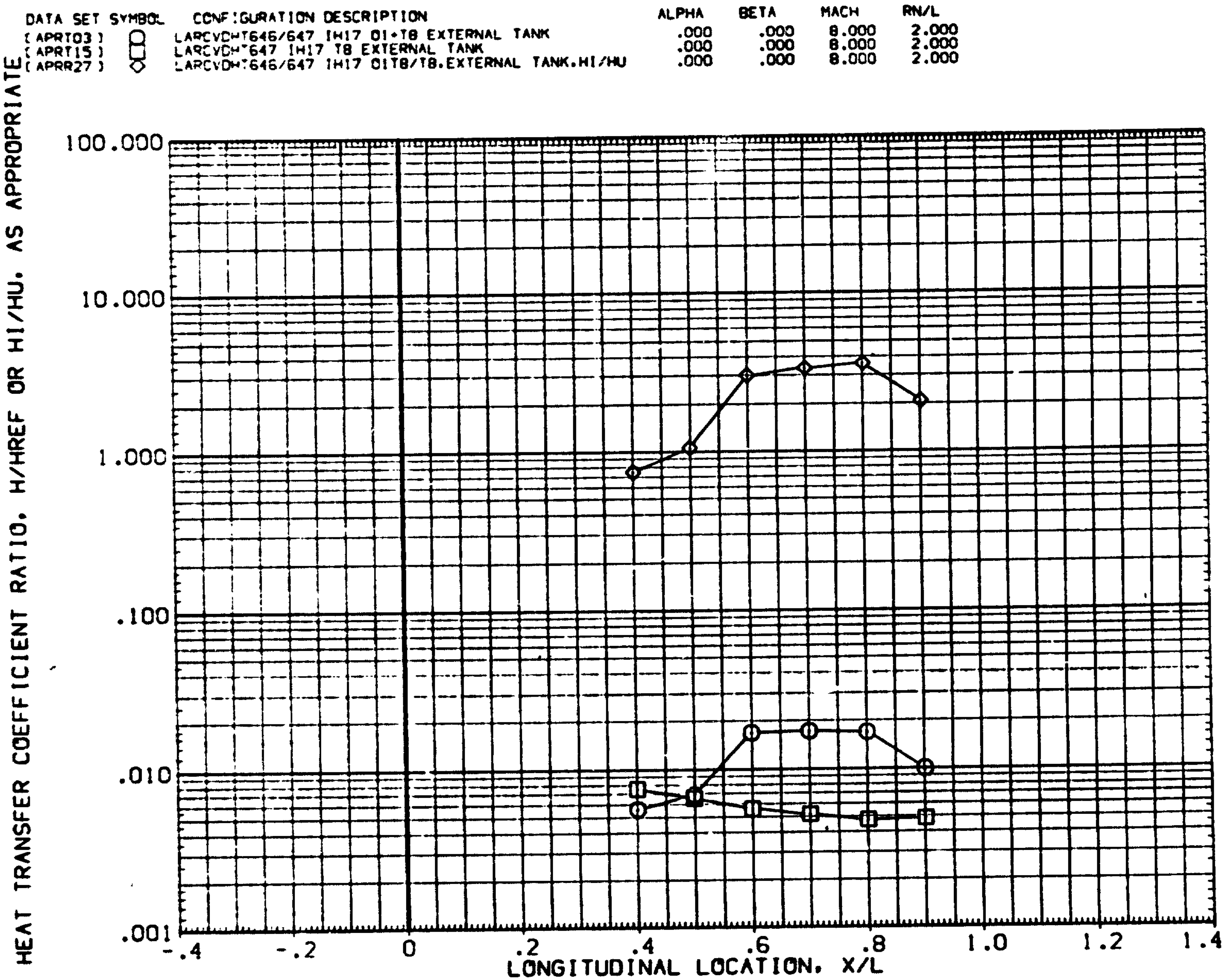


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 45.000

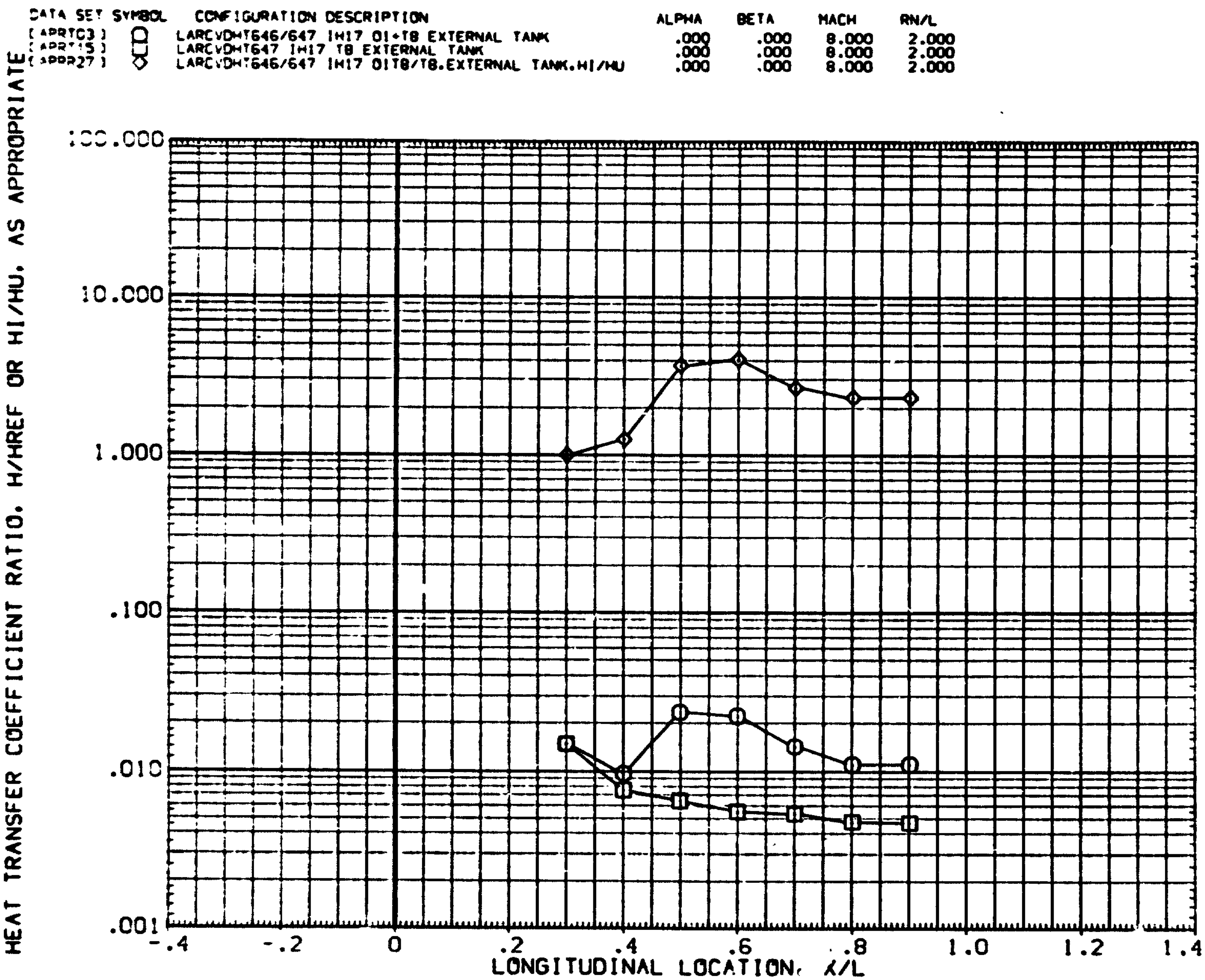


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 67.500

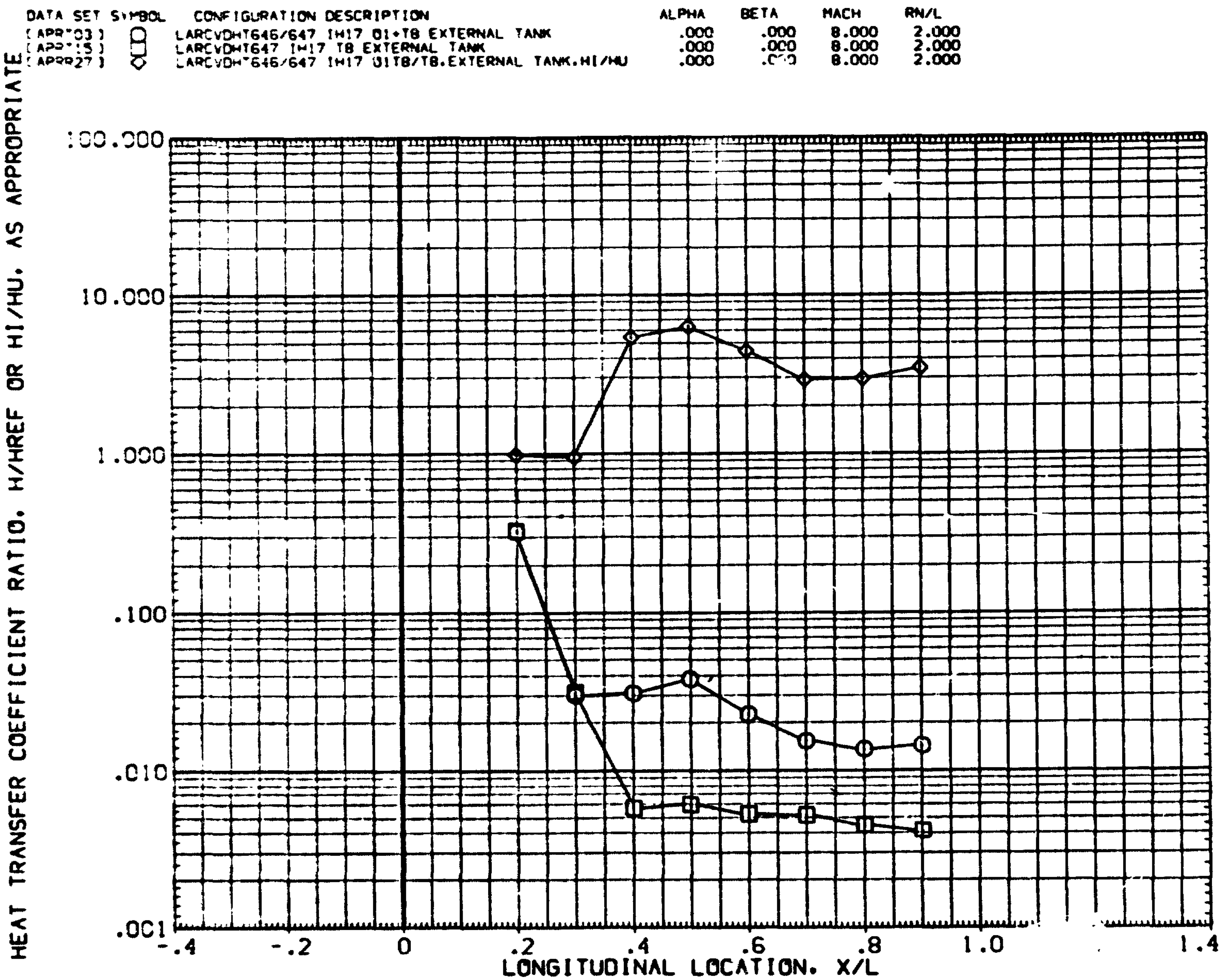


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 90.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT03)	○	LARCVDHT646/647 IH17 OI+TB EXTERNAL TANK	.000	.000	8.000	2.000
(APRT15)	□	LARCVDHT647 IH17 TB EXTERNAL TANK	.000	.000	8.000	2.000
(APRR27)	◇	LARCVDHT646/647 IH17 OITB/TB.EXTERNAL TANK.HI/HU	.000	.000	8.000	2.000

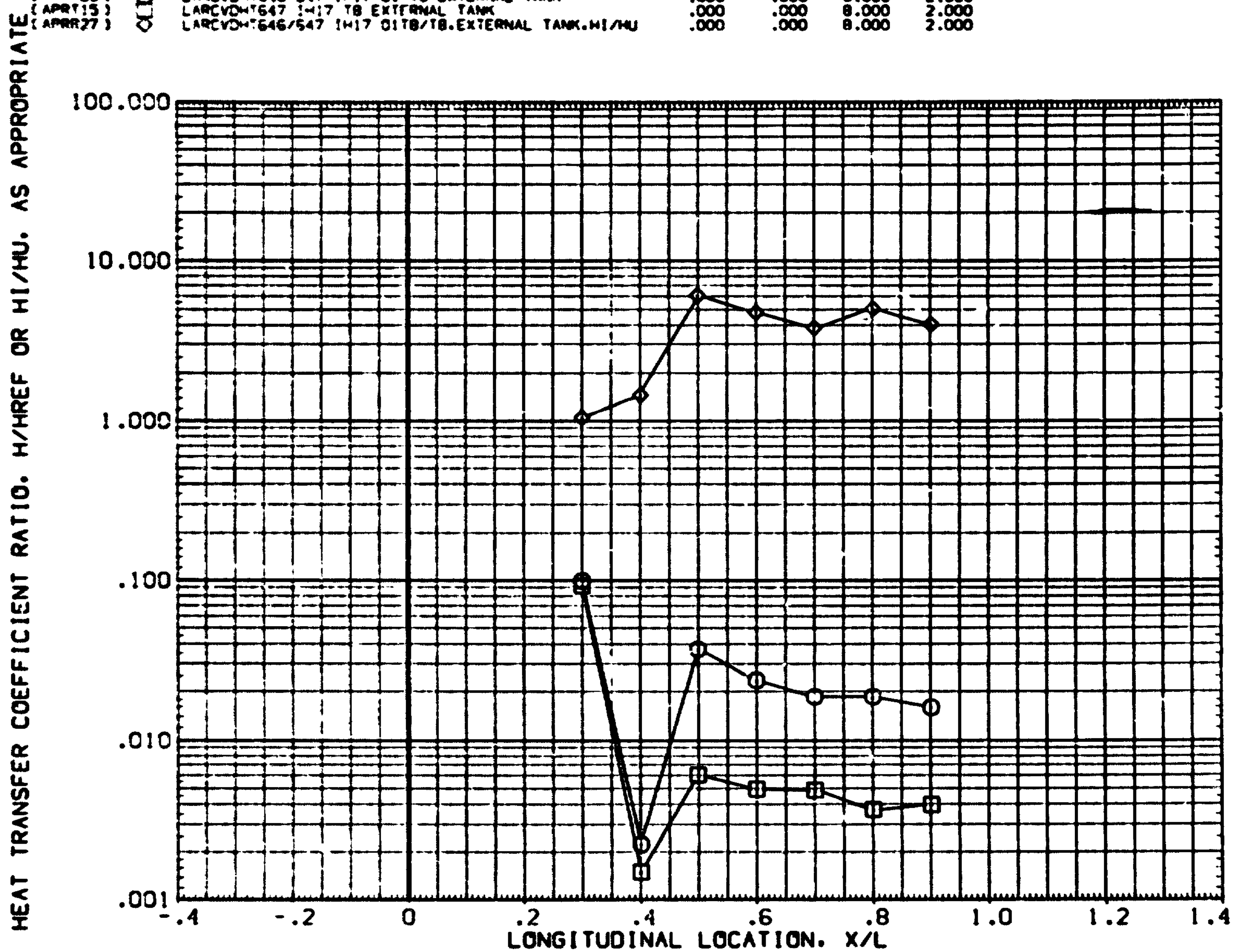


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 112.500

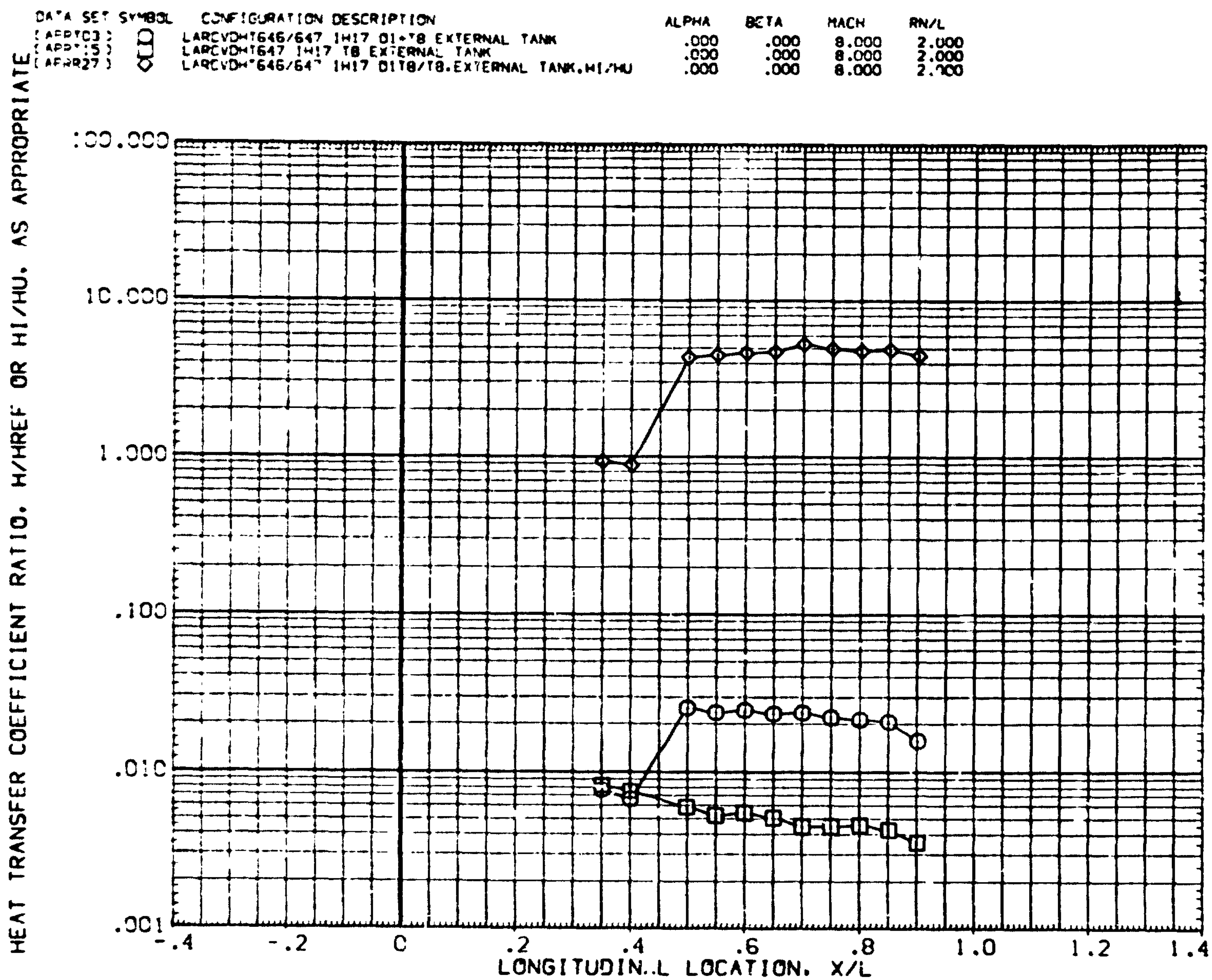


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 135.000

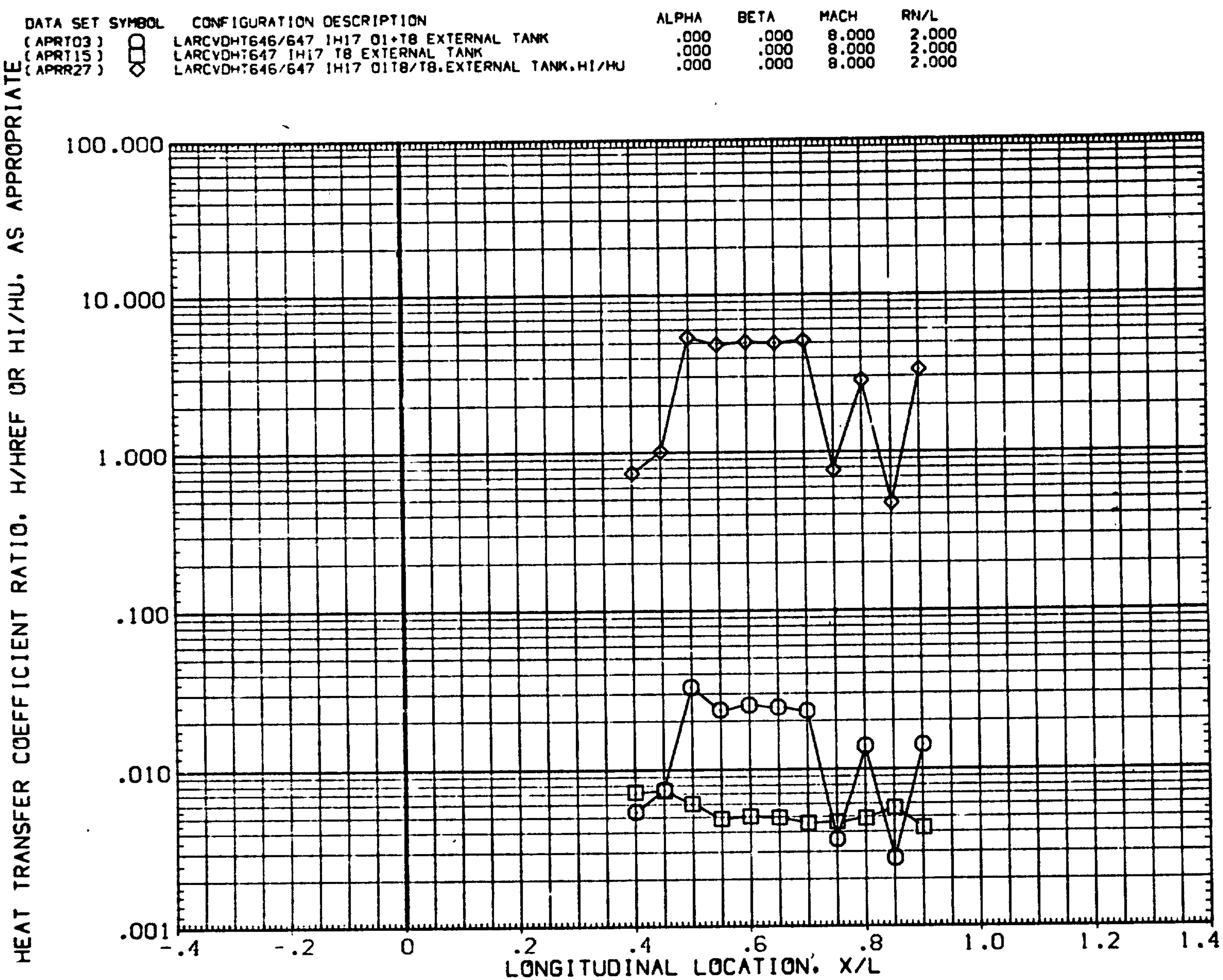


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 157.500

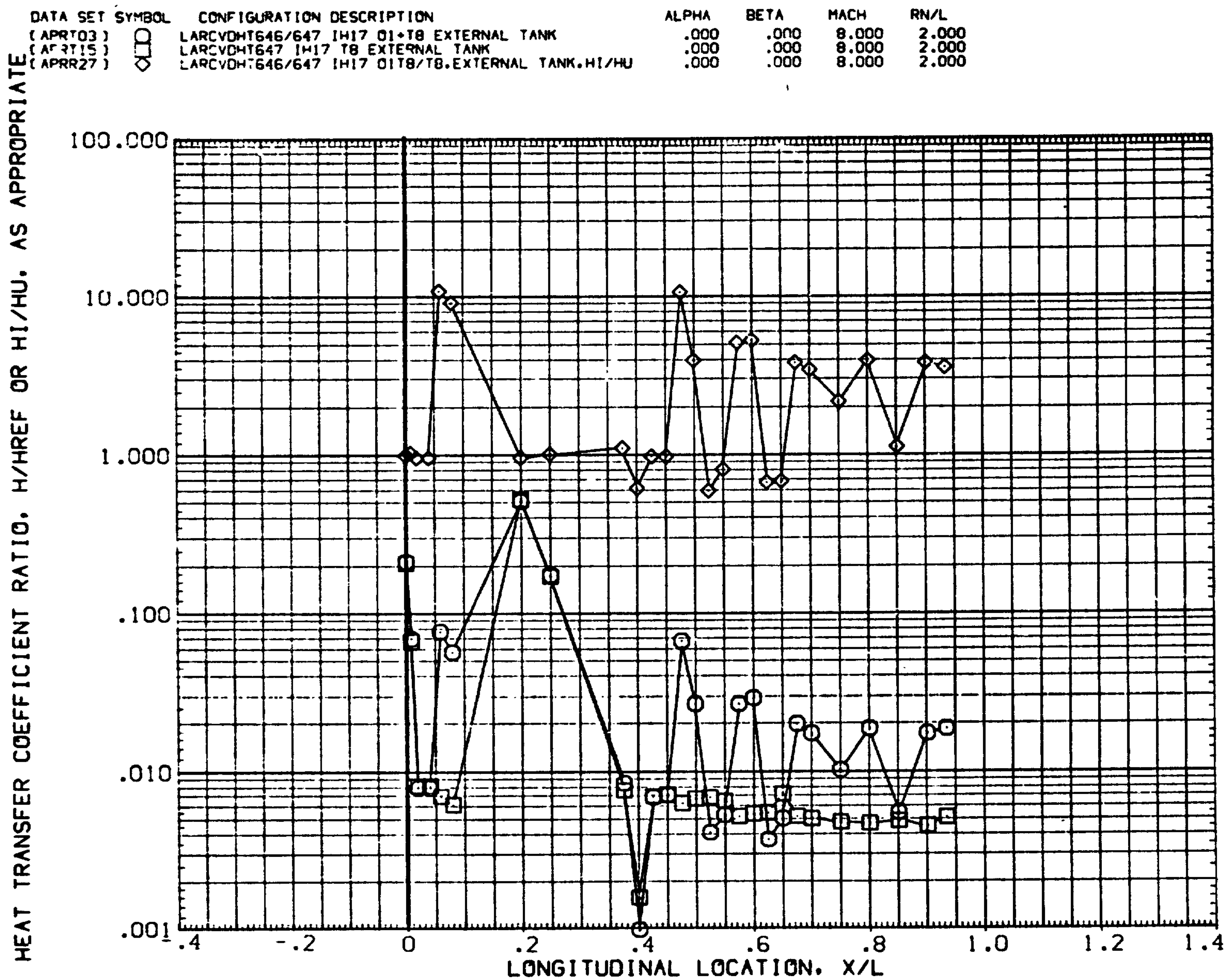


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT03)	○	LARCVDHT646/647 IH17 01+T8 EXTERNAL TANK	.000	.000	8.000	2.000
(APRT15)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	2.000
(APRR27)	◇	LARCVDHT646/647 IH17 01T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	2.000

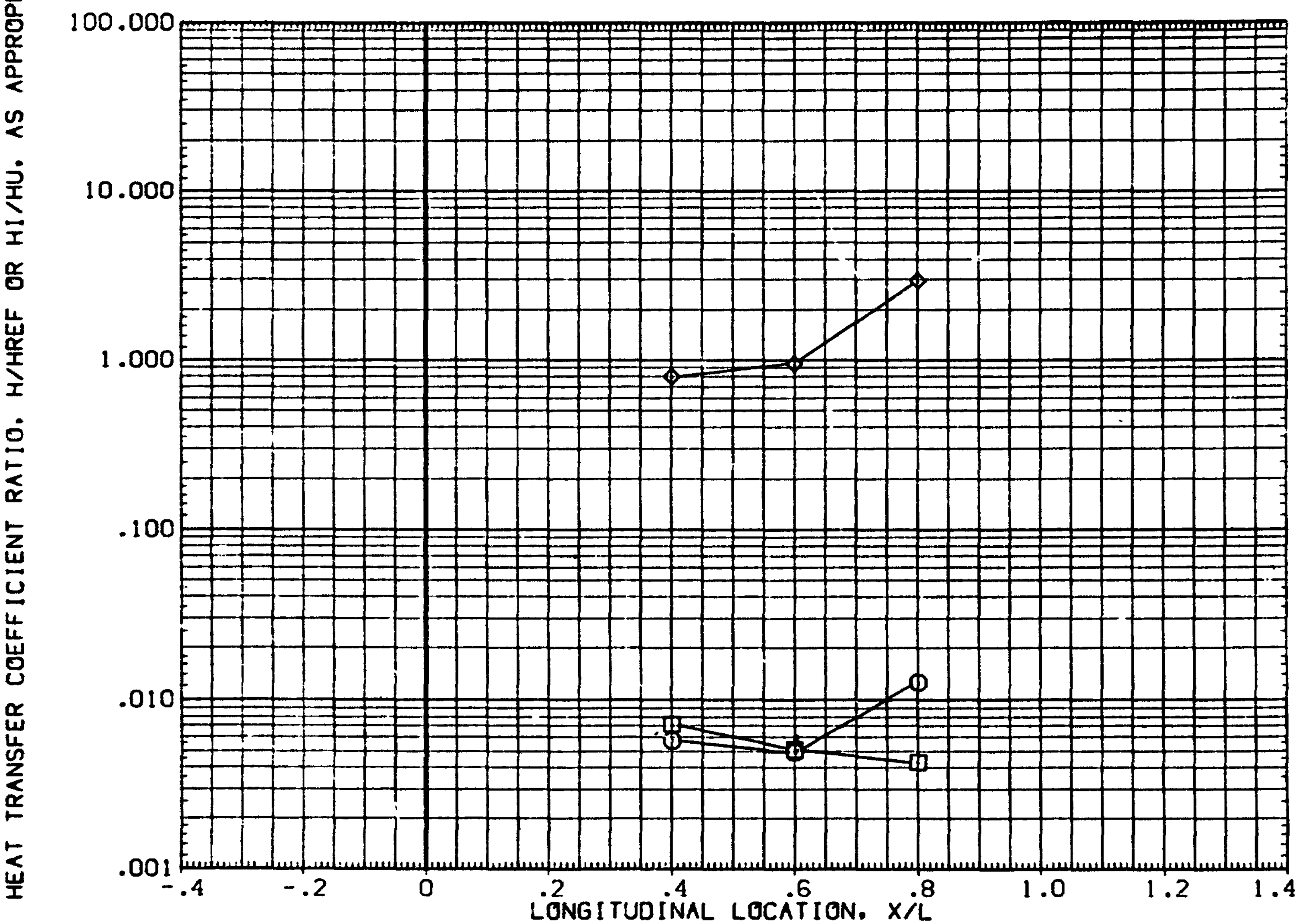


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = .000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT03)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	2.000
(APRT15)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	2.000
(APRR27)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	2.000

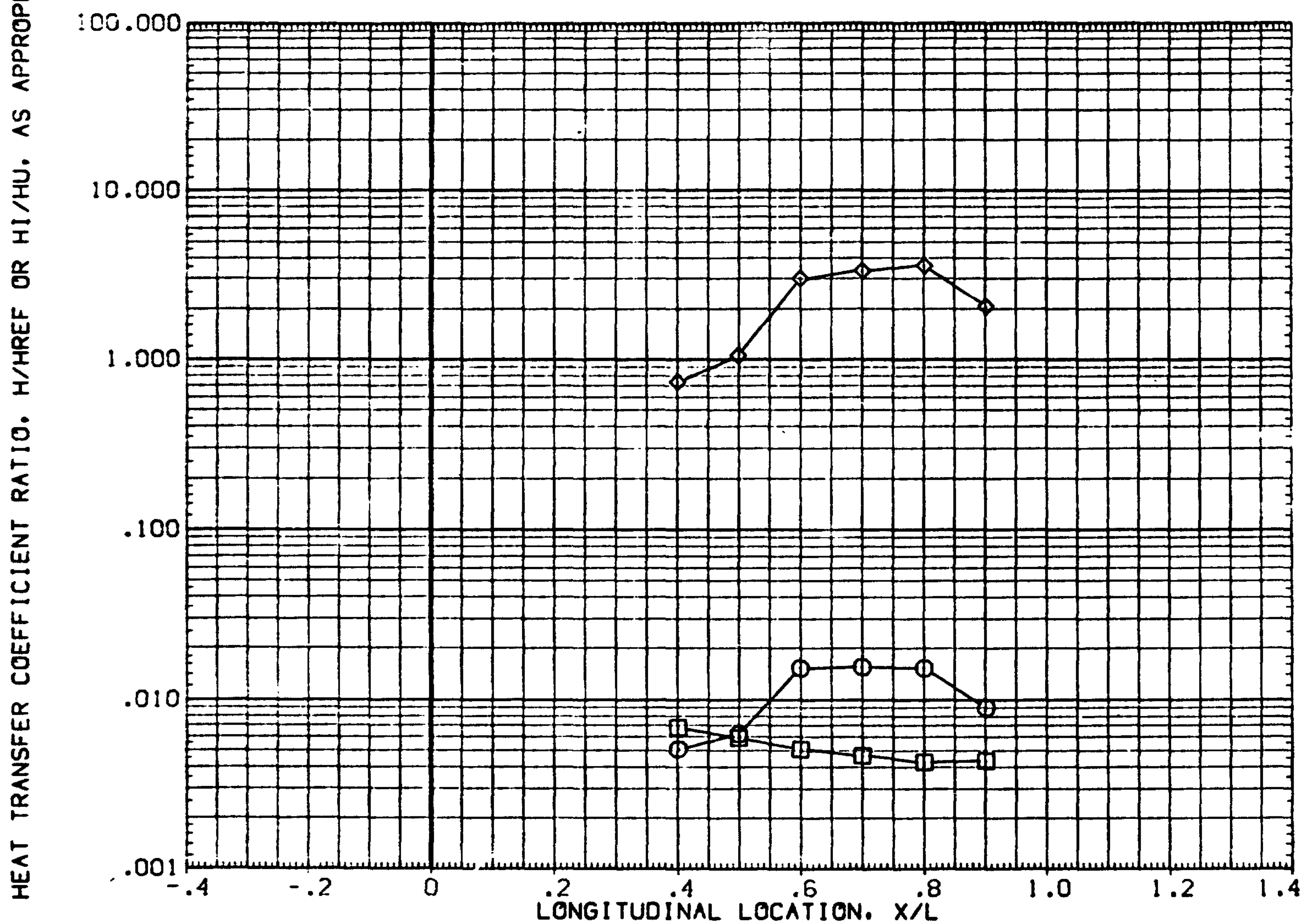


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 45.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT03)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	2.000
(APRT15)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	2.000
(APRR27)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	2.000

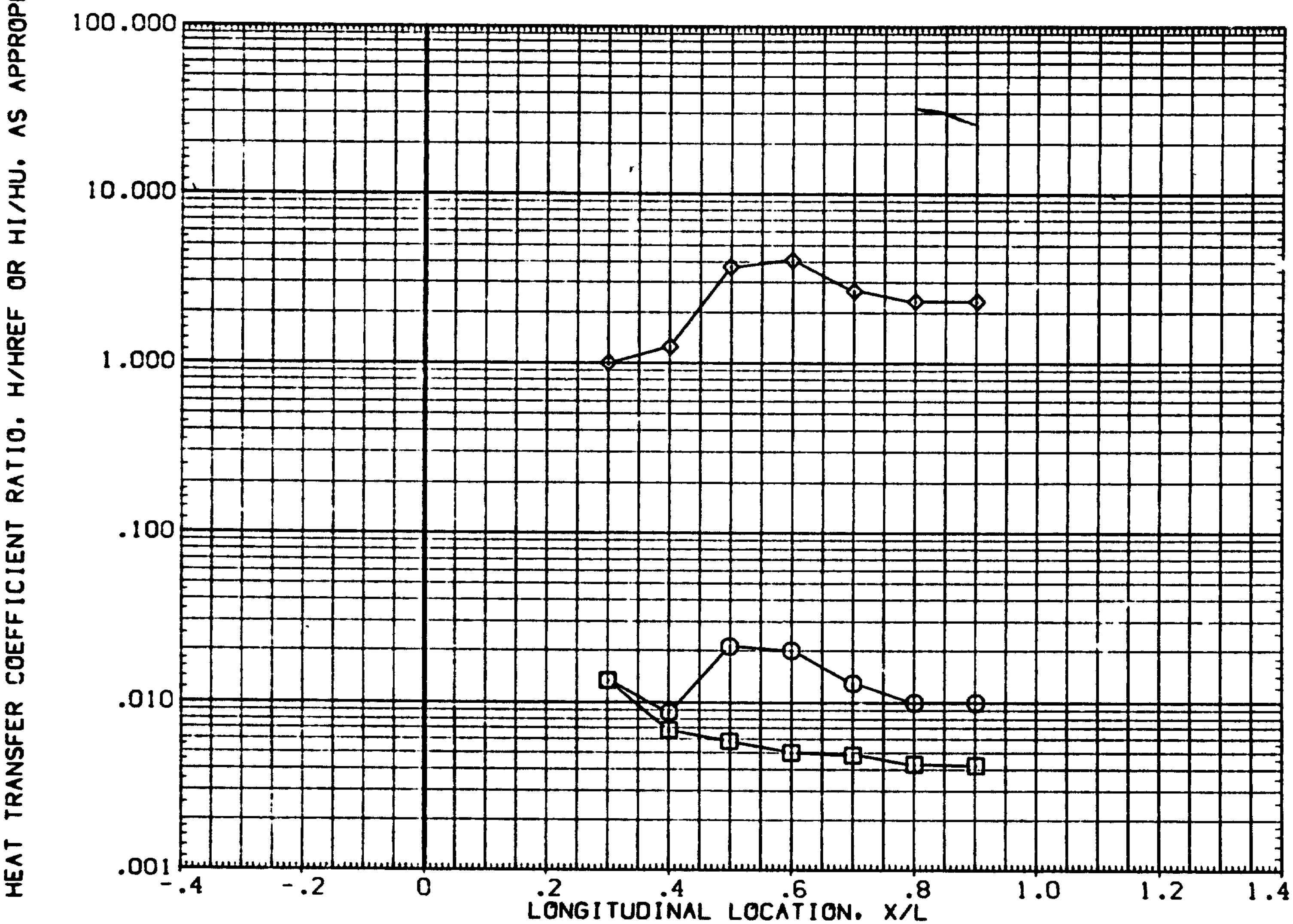


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 67.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT03)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	2.000
(APRT15)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	2.000
(APRR27)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	2.000

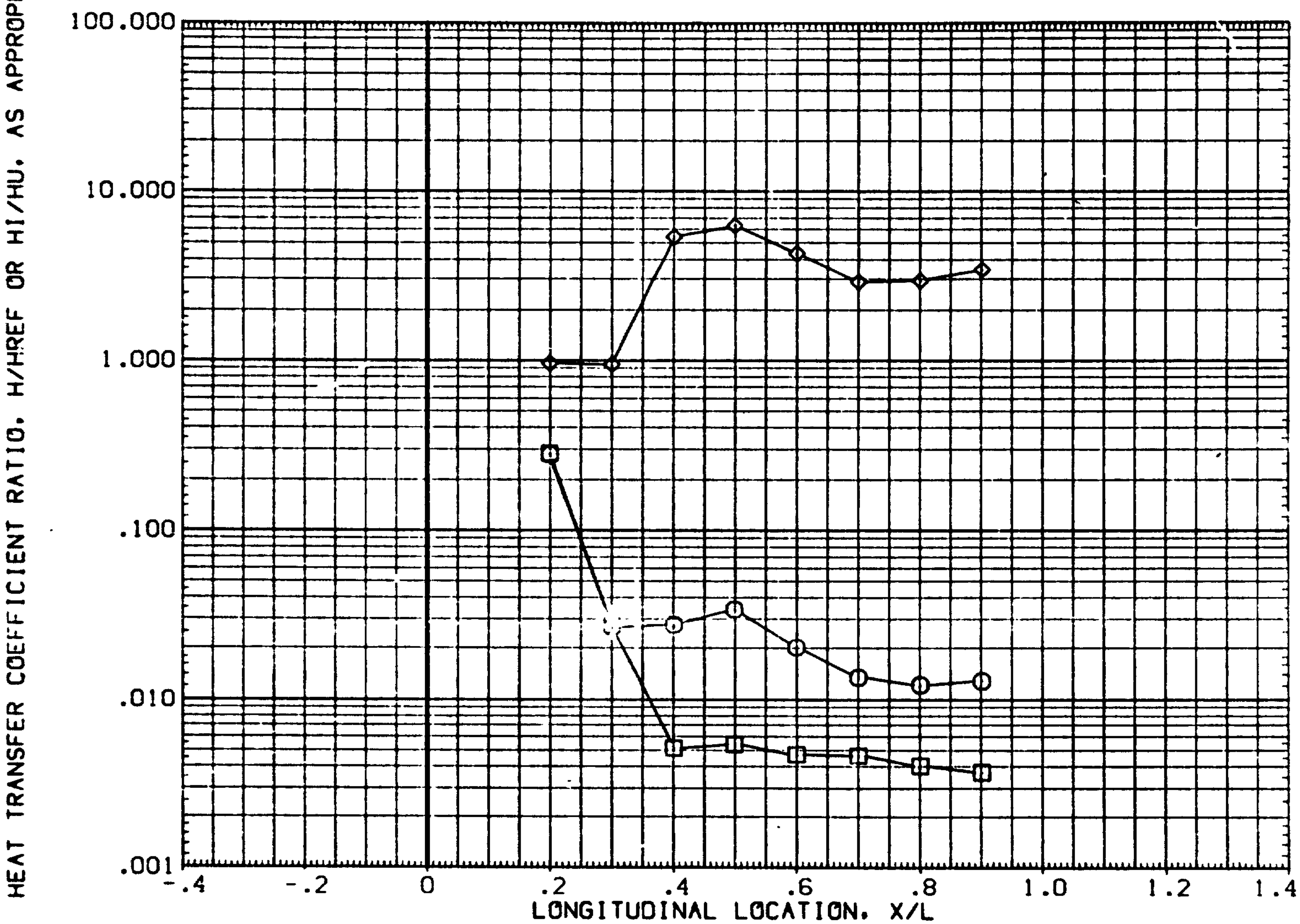


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 90.000

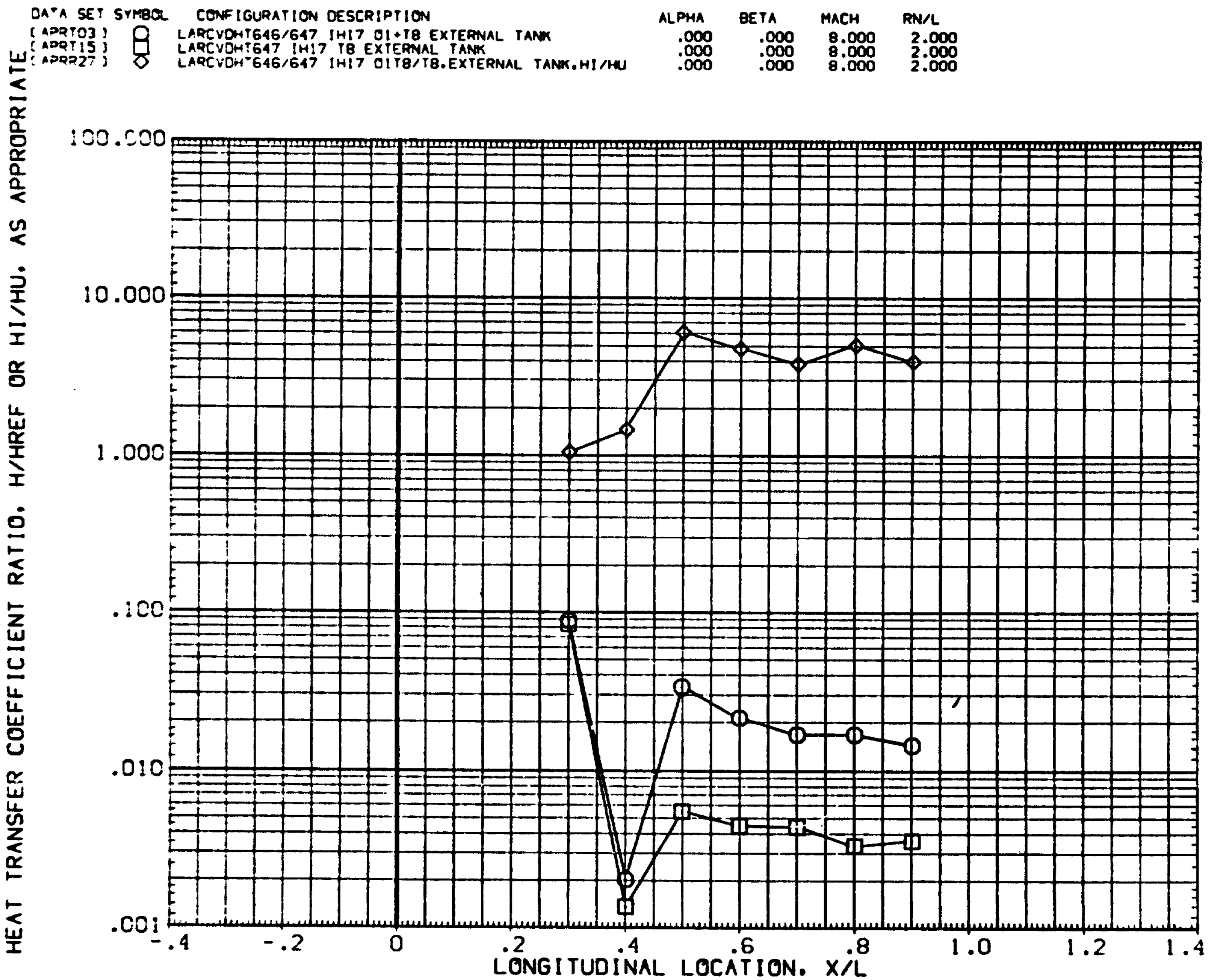


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 112.500

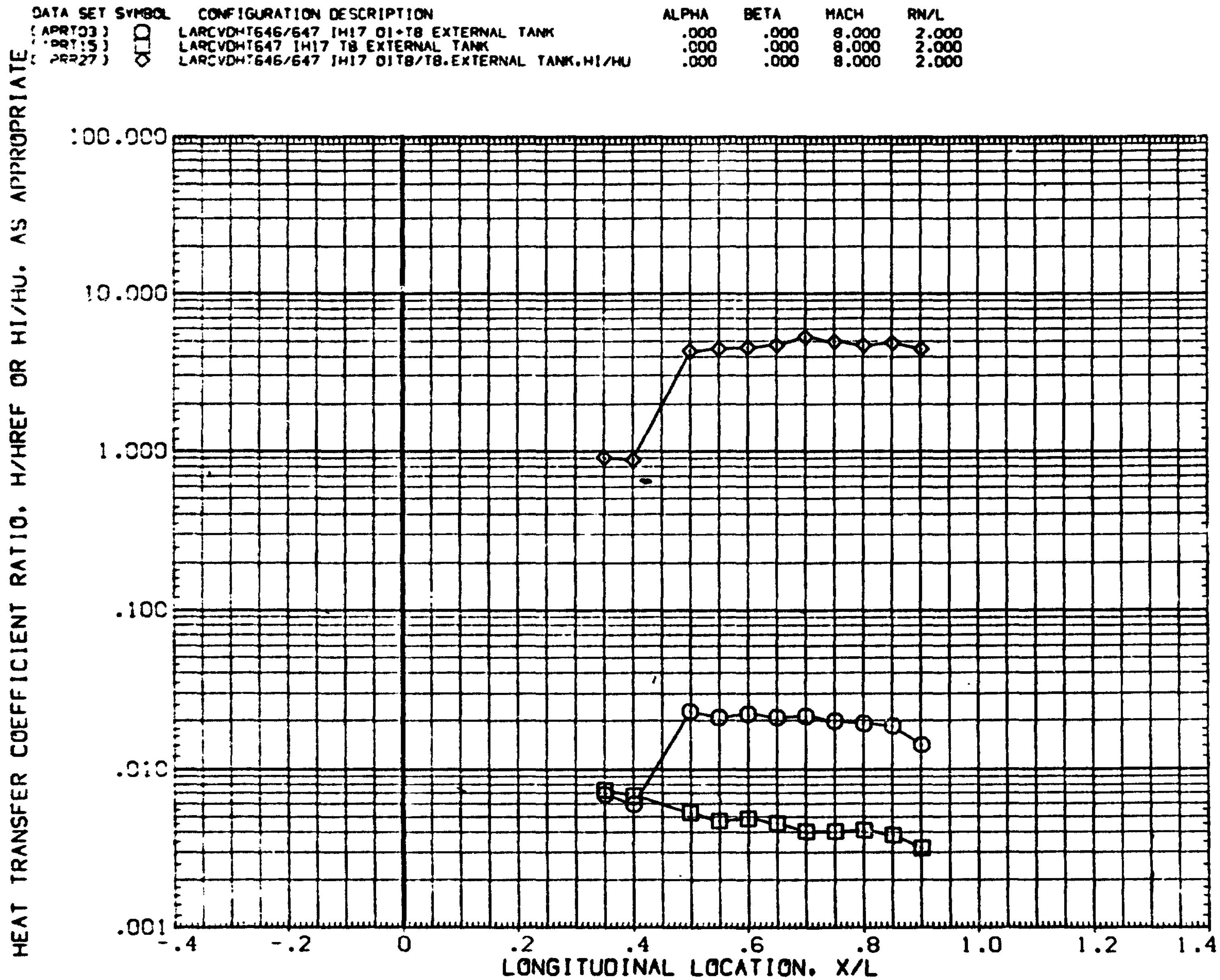


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 135.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRTC3)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	2.000
(APRT15)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	2.000
(APRR27)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	2.000

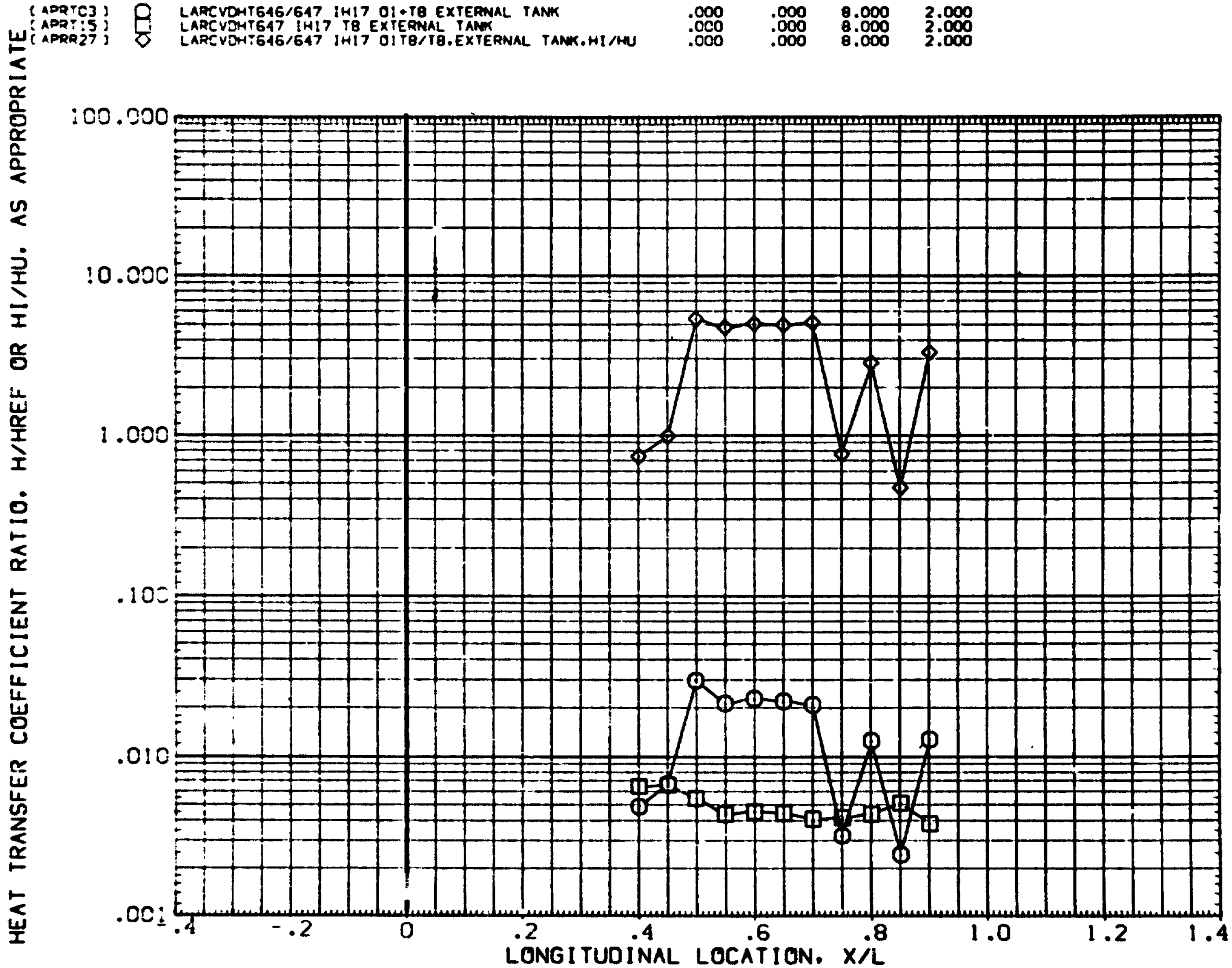


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 157.500

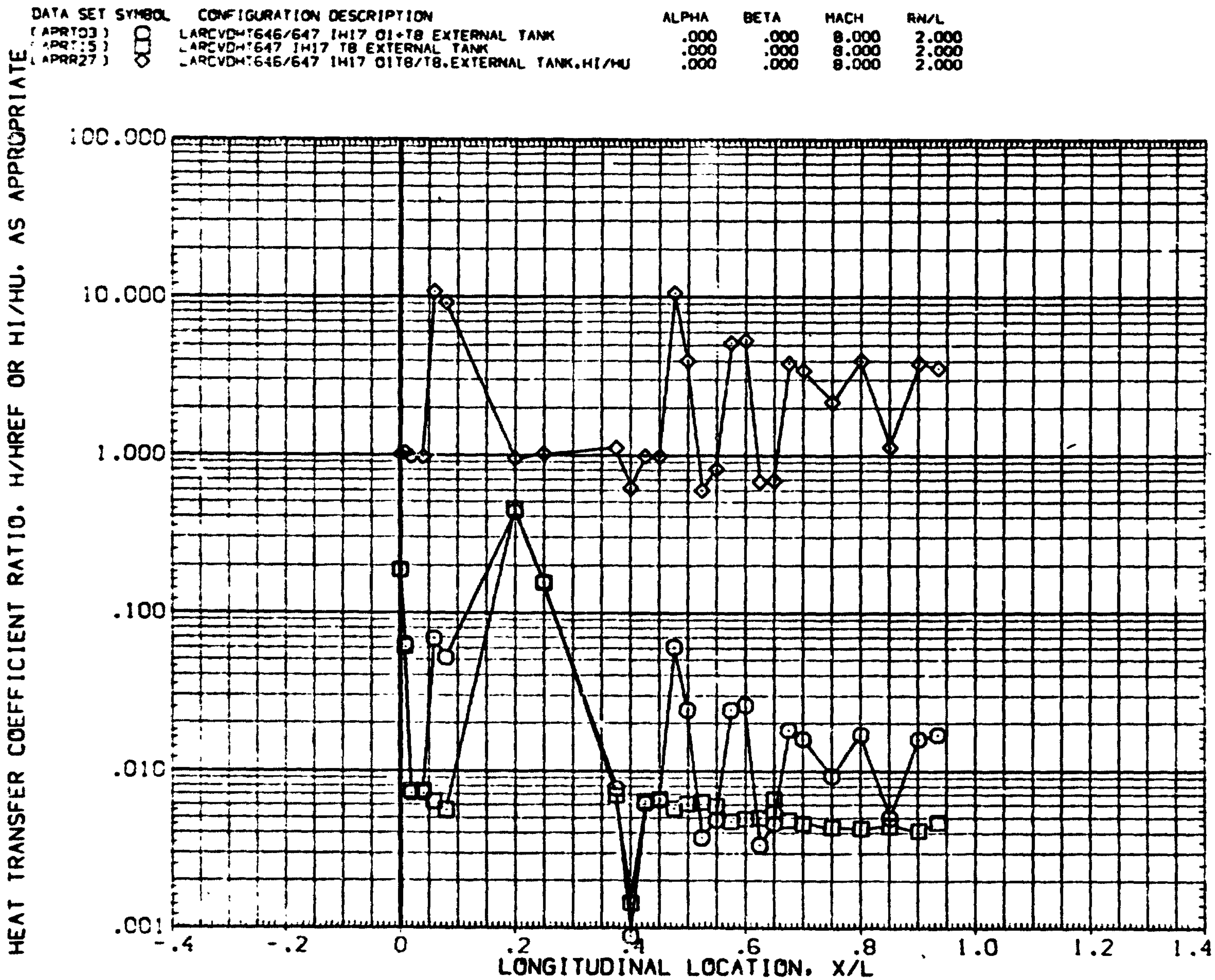


FIG. 30 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT04)	○	LARCVD-T646/647 IH17 OI+T8 EXTERNAL TANK	.000	.000	8.000	5.000
(APRT16)	□	LARCVD-T647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	5.000
(APRR28)	◇	LARCVD-T646/647 IH17 OIT8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	5.000

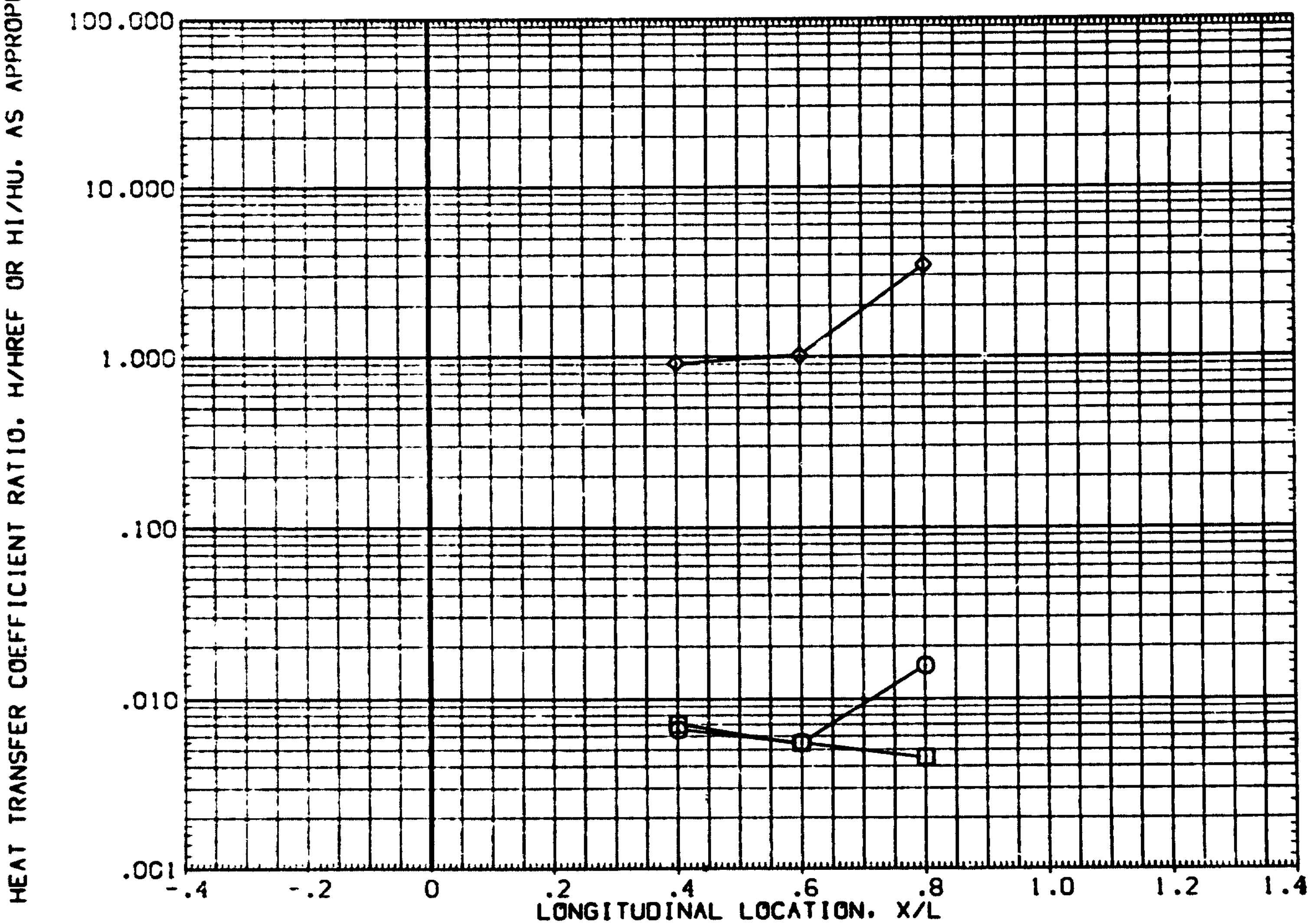


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = .000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT04)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	5.000
(APRT16)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	5.000
(APRR28)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	5.000

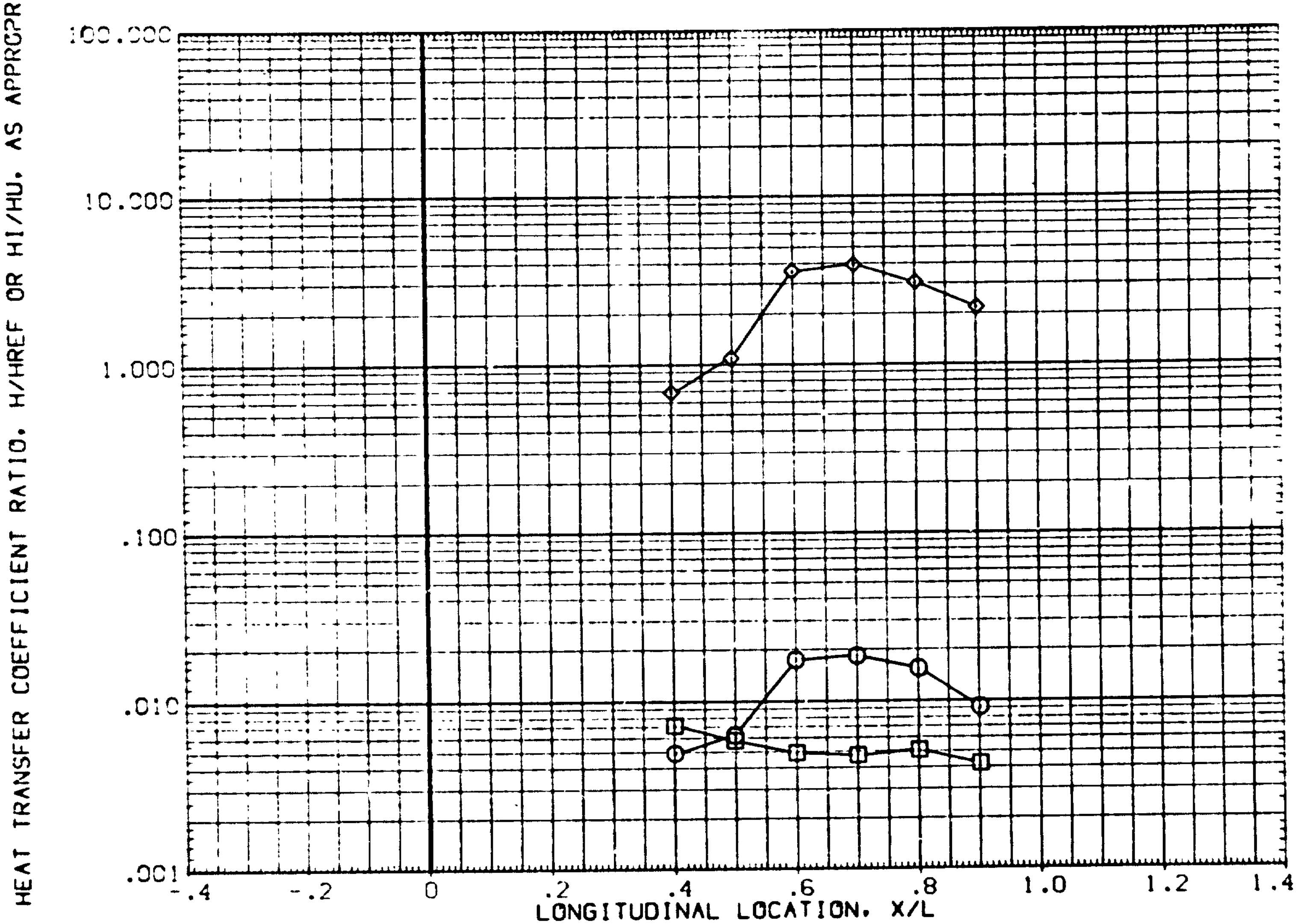


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 45.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRTC4)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	5.000
(APRT16)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	5.000
(APRR28)	◇	LARCVDHT646/647 IH17 O1T8/T8,EXTERNAL TANK,HI/HU	.000	.000	8.000	5.000

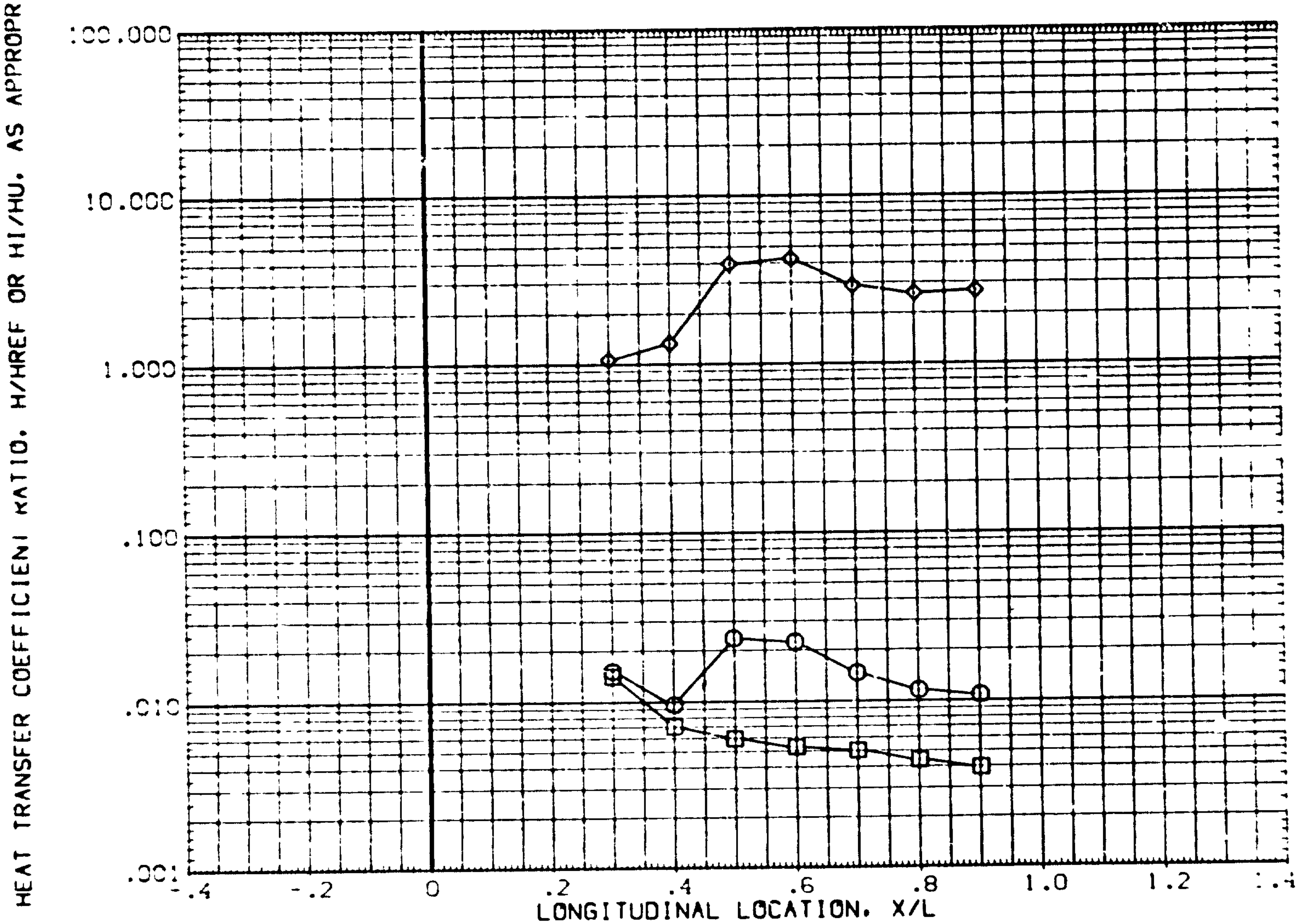


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 67.500

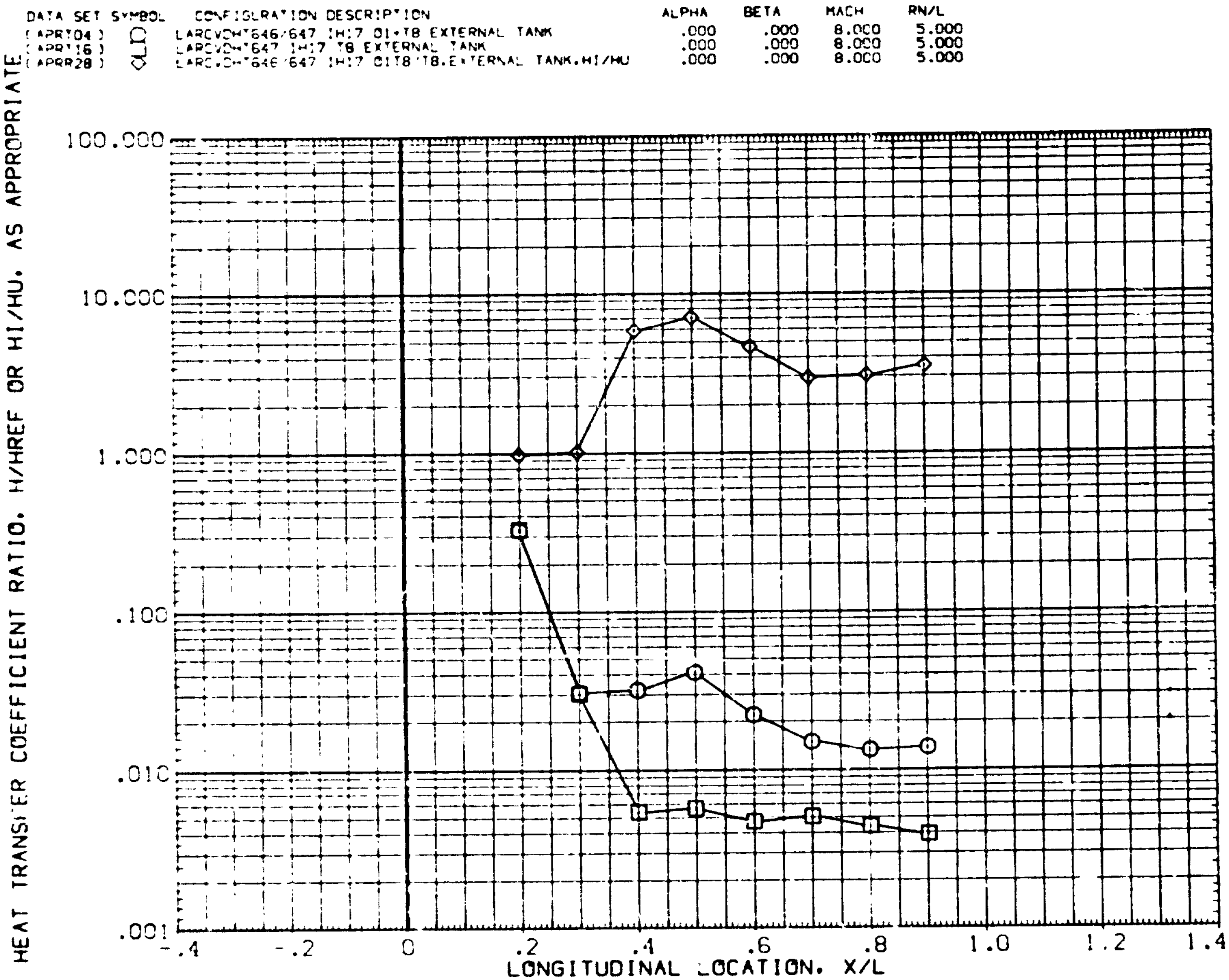


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 90.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT04)	○	LARCVDHT646/647 1H17 O1+T8 EXTERNAL TANK	.000	.000	8.000	5.000
(APRT16)	□	LARCVDHT647 1H17 T8 EXTERNAL TANK	.000	.000	8.000	5.000
(APRR28)	◇	LARCVDHT646/647 1H17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	5.000

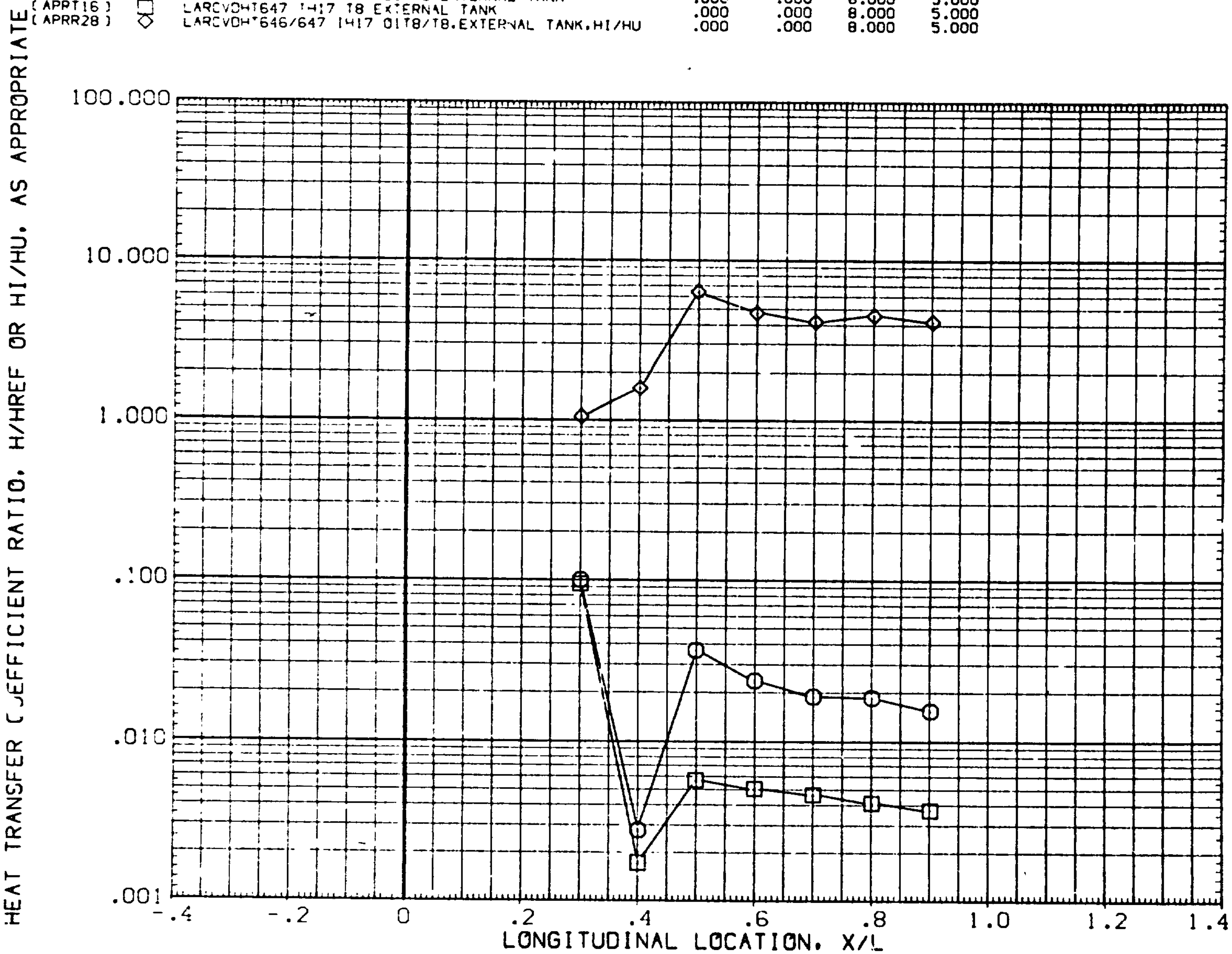


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 112.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APPT04)	○	LARCVDHT646/647 IH17 01+T8 EXTERNAL TANK	.000	.000	8.000	5.000
(APPT16)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	5.000
(APPP28)	◇	LARCVDHT646/647 IH17 01T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	5.000

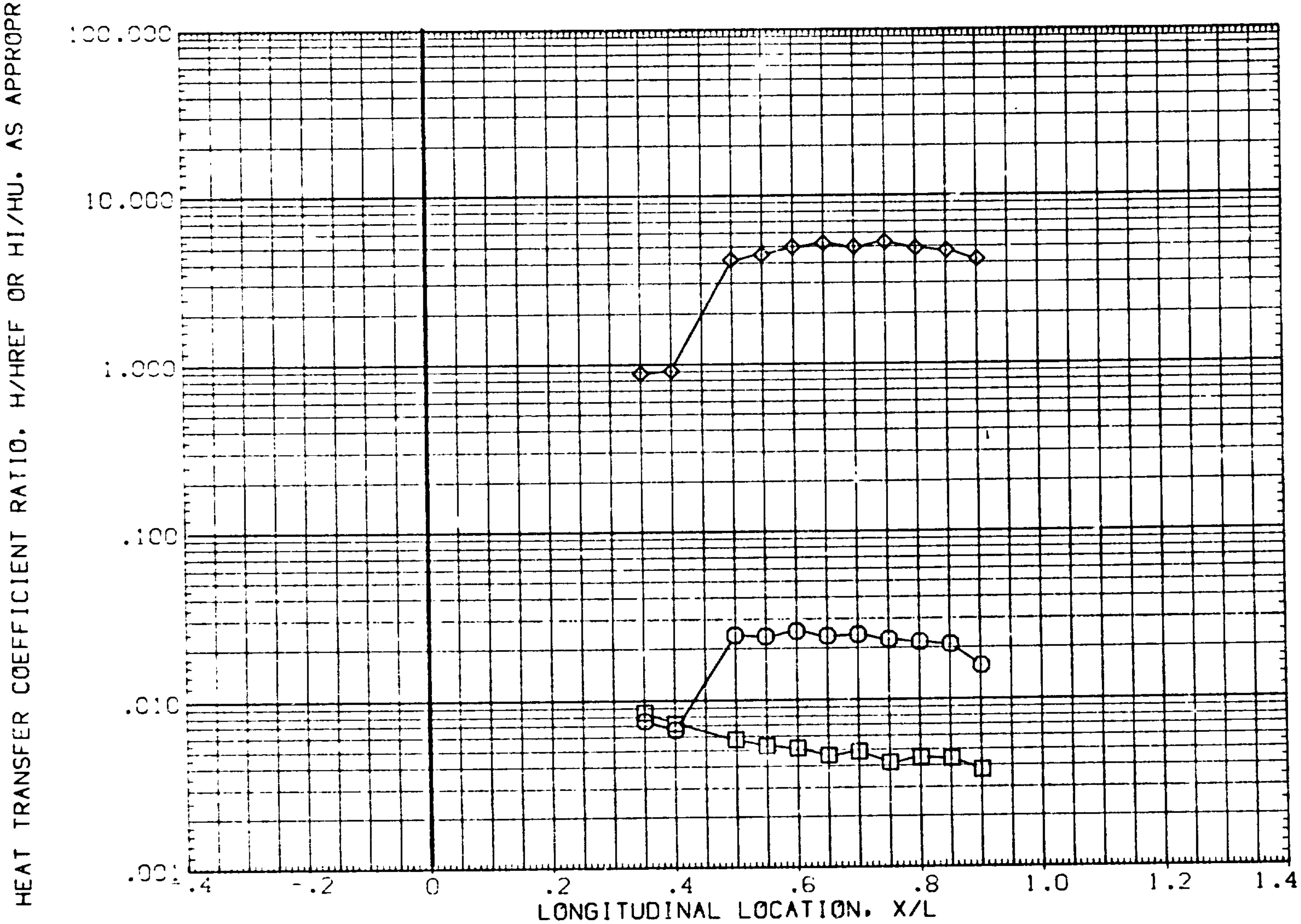


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 135.000

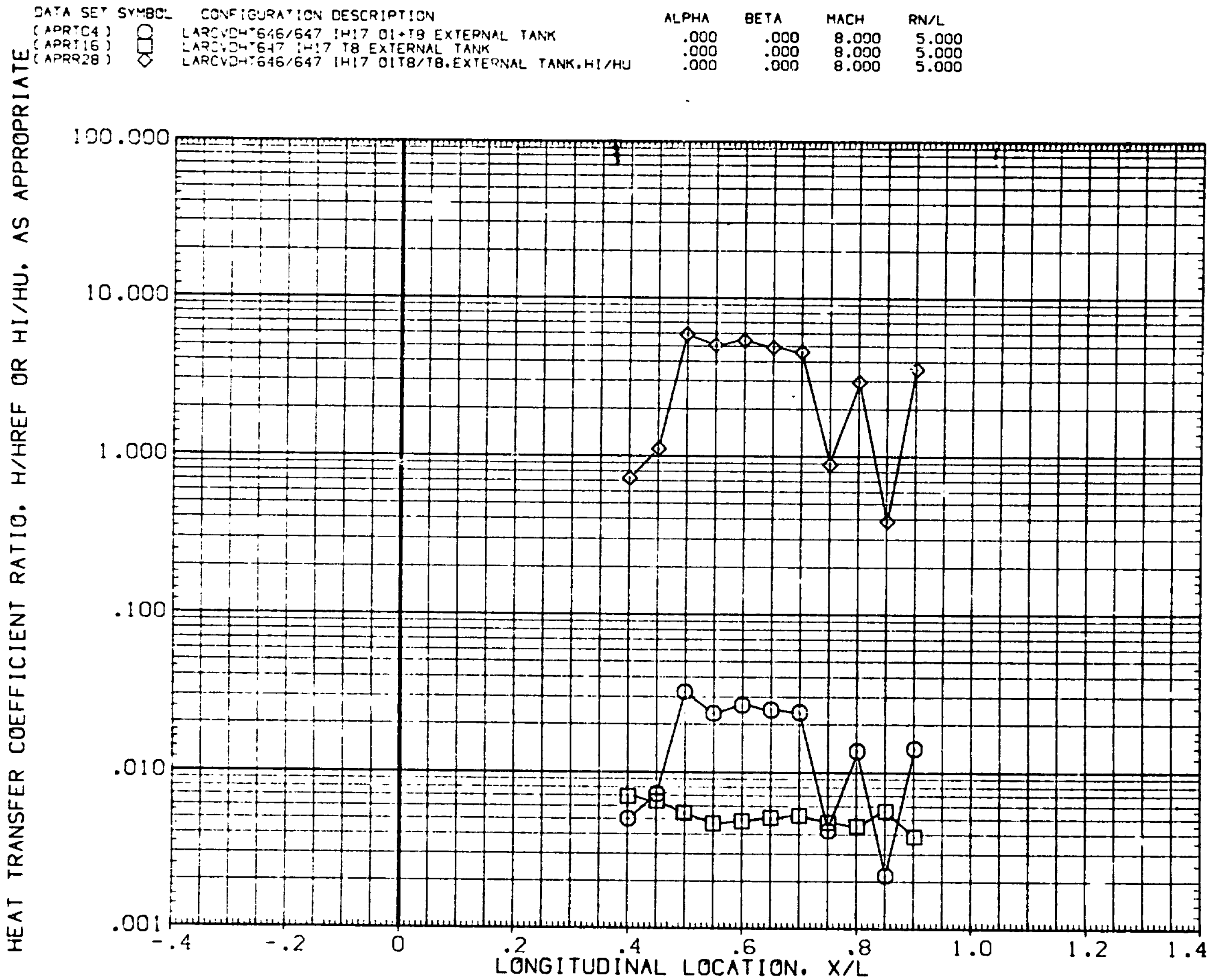


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 157.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT04)	○	LARCVDHT646/647 IH17 01+T8 EXTERNAL TANK	.000	.000	8.000	5.000
(APRT16)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	5.000
(APRR28)	◇	LARCVDHT646/647 IH17 01T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	5.000

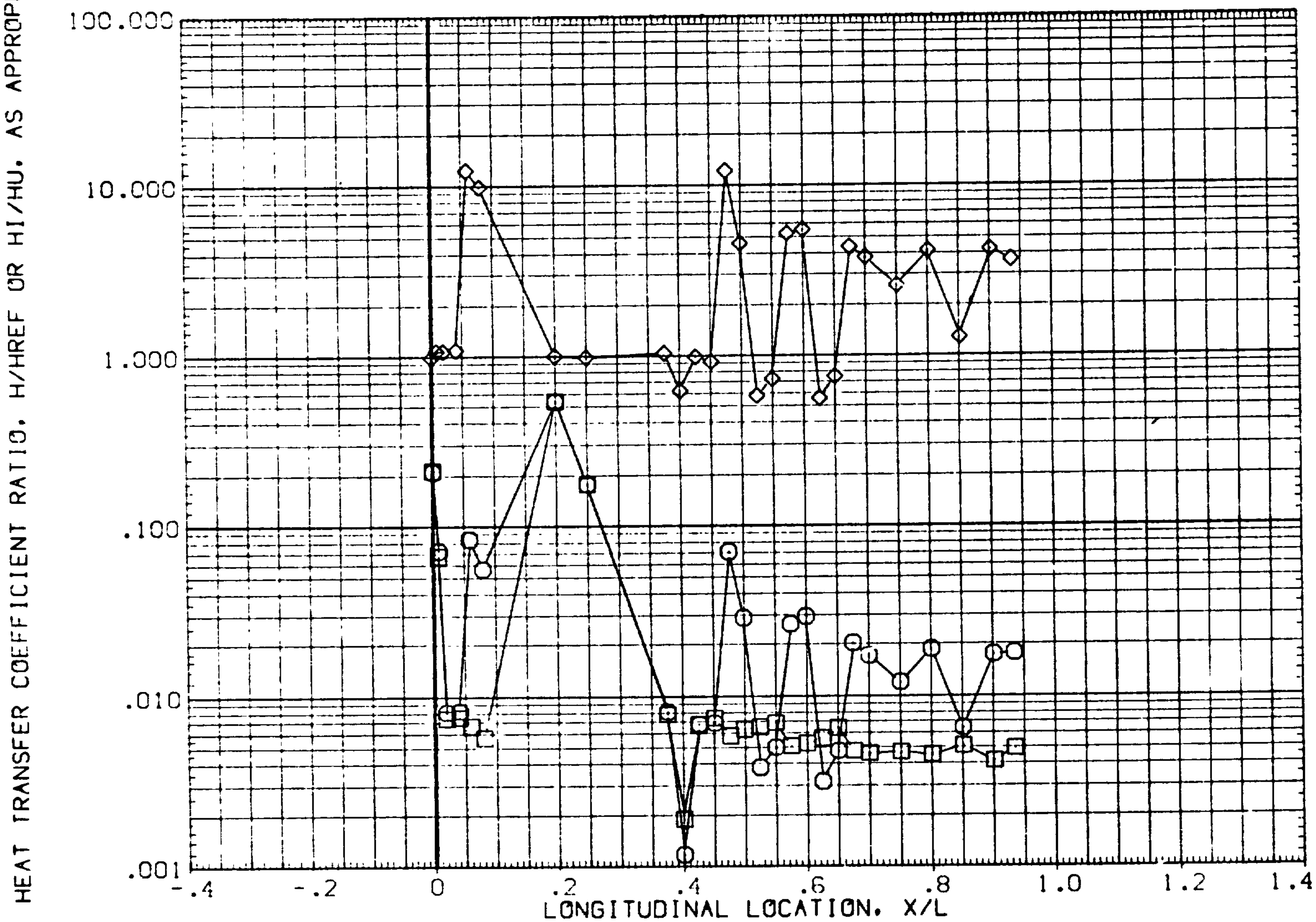


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 180.000

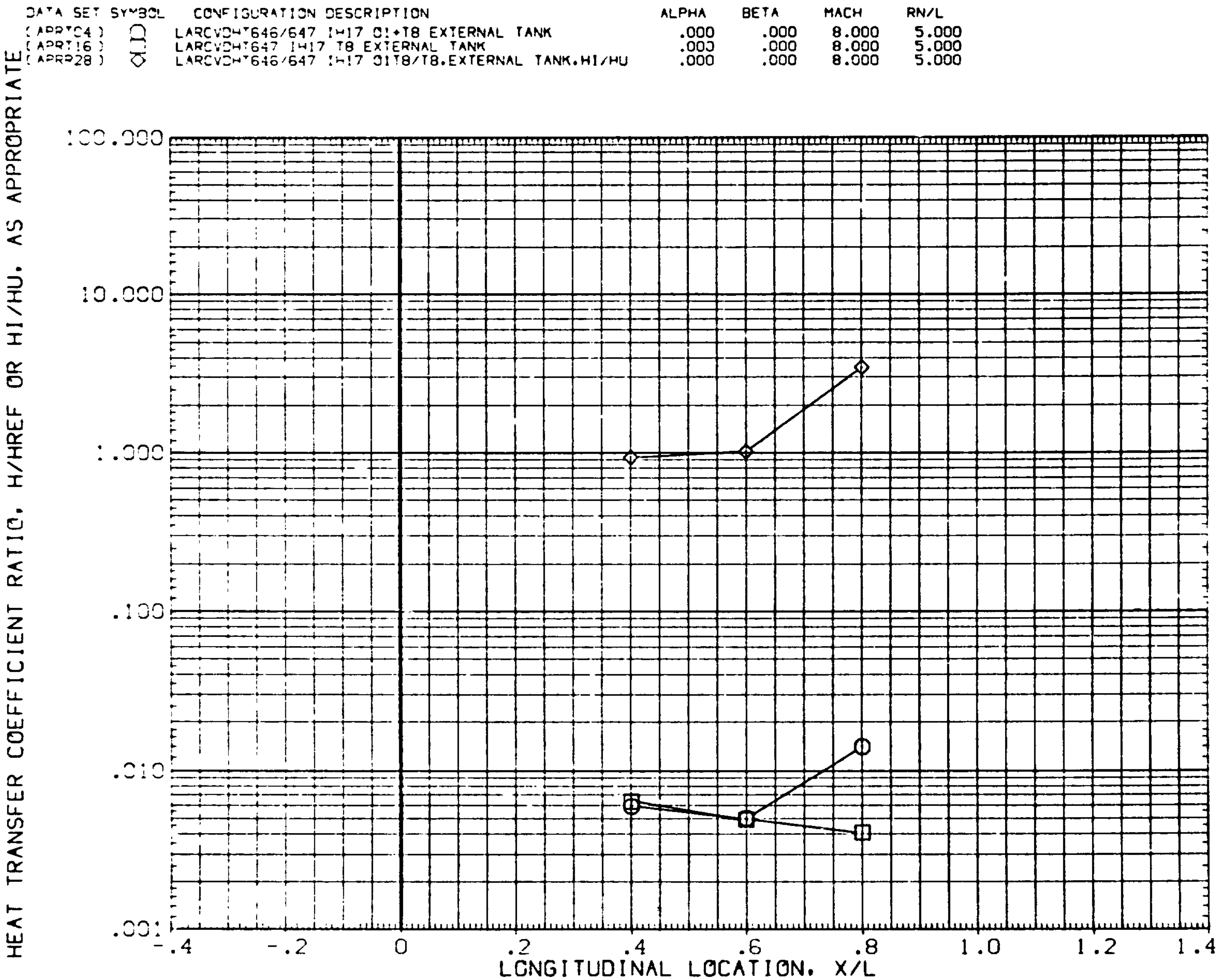


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 PHI = .000

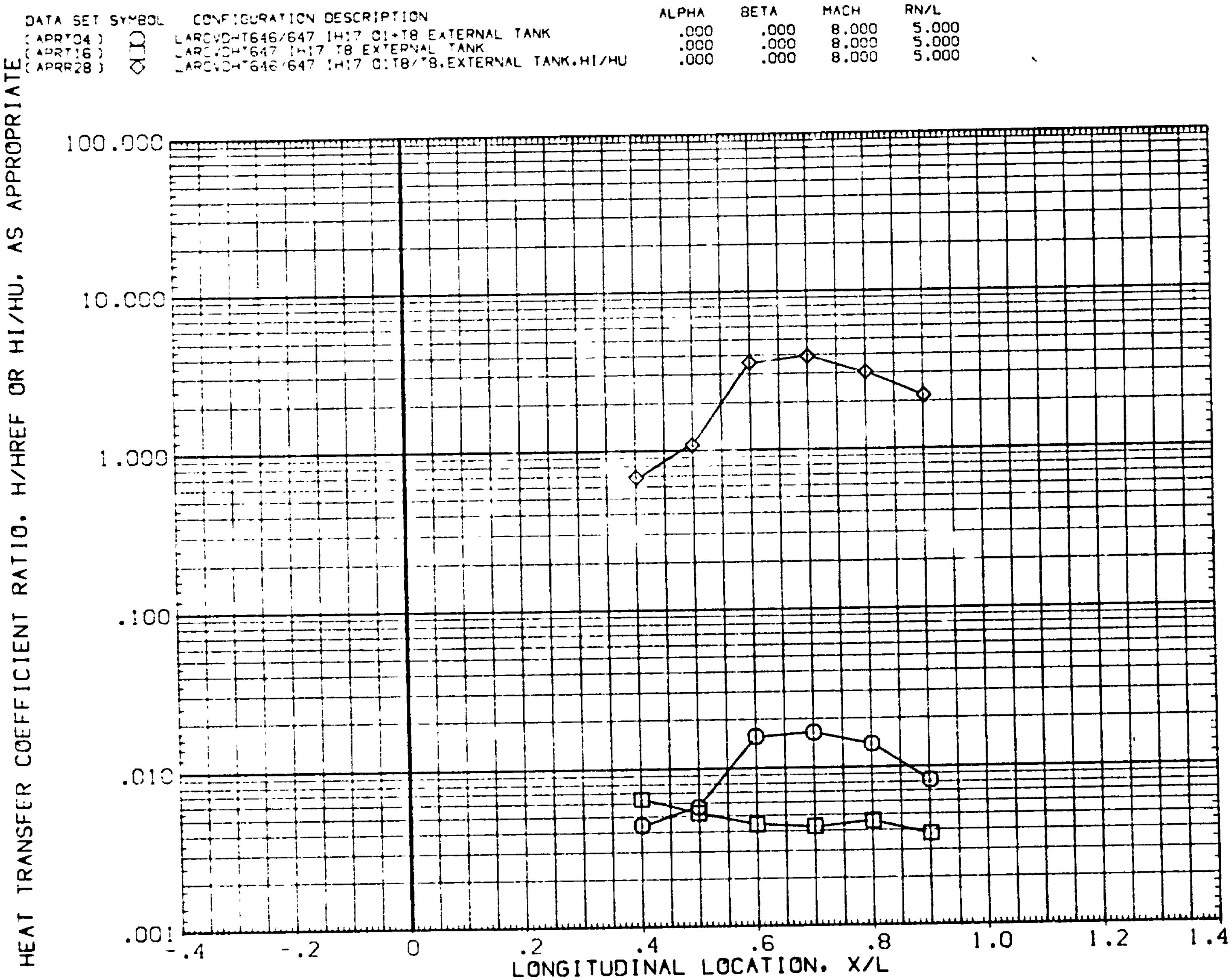


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 PHI = 45.000

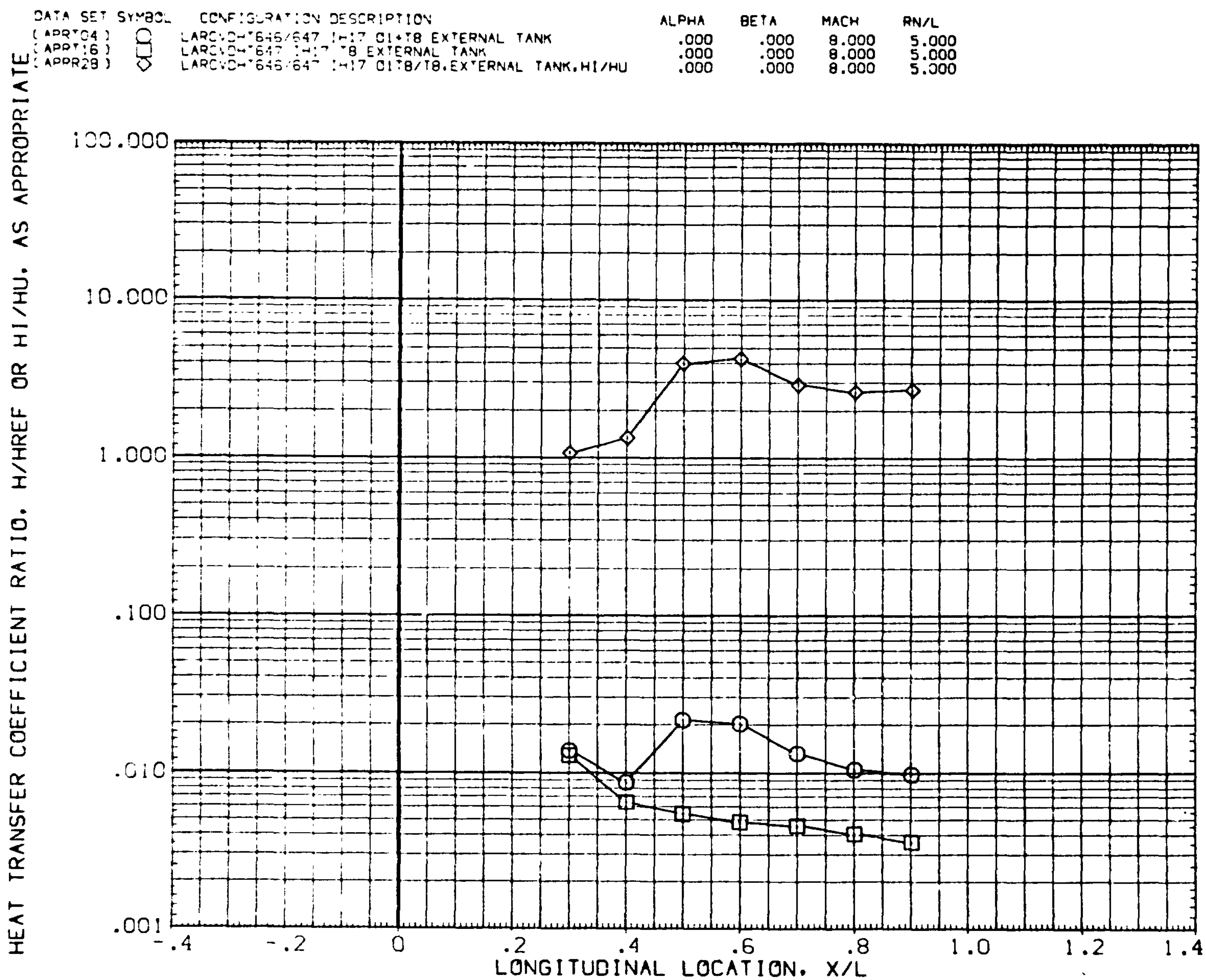


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 PHI = 67.500

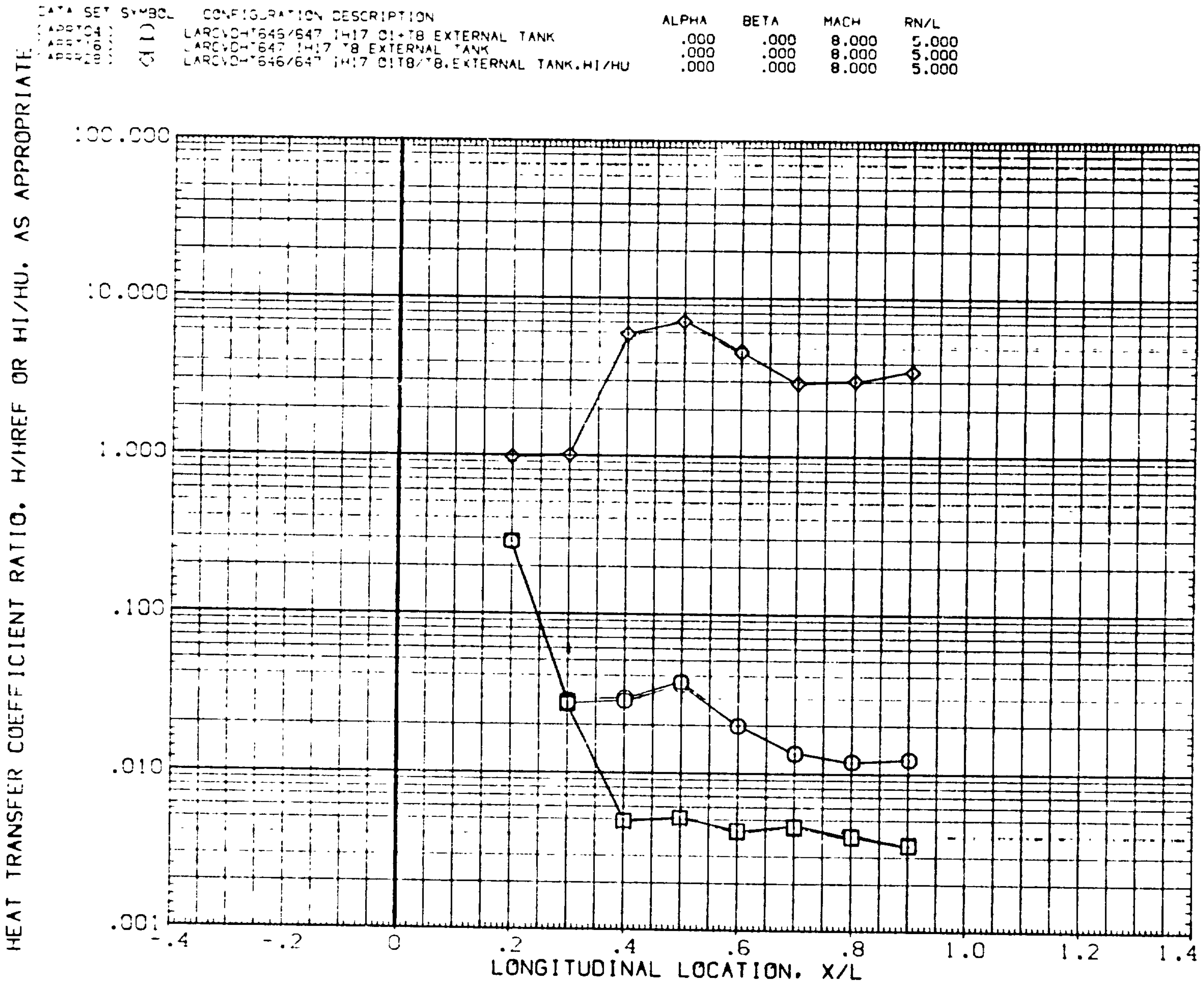


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HI = .900 PHI = 90.000

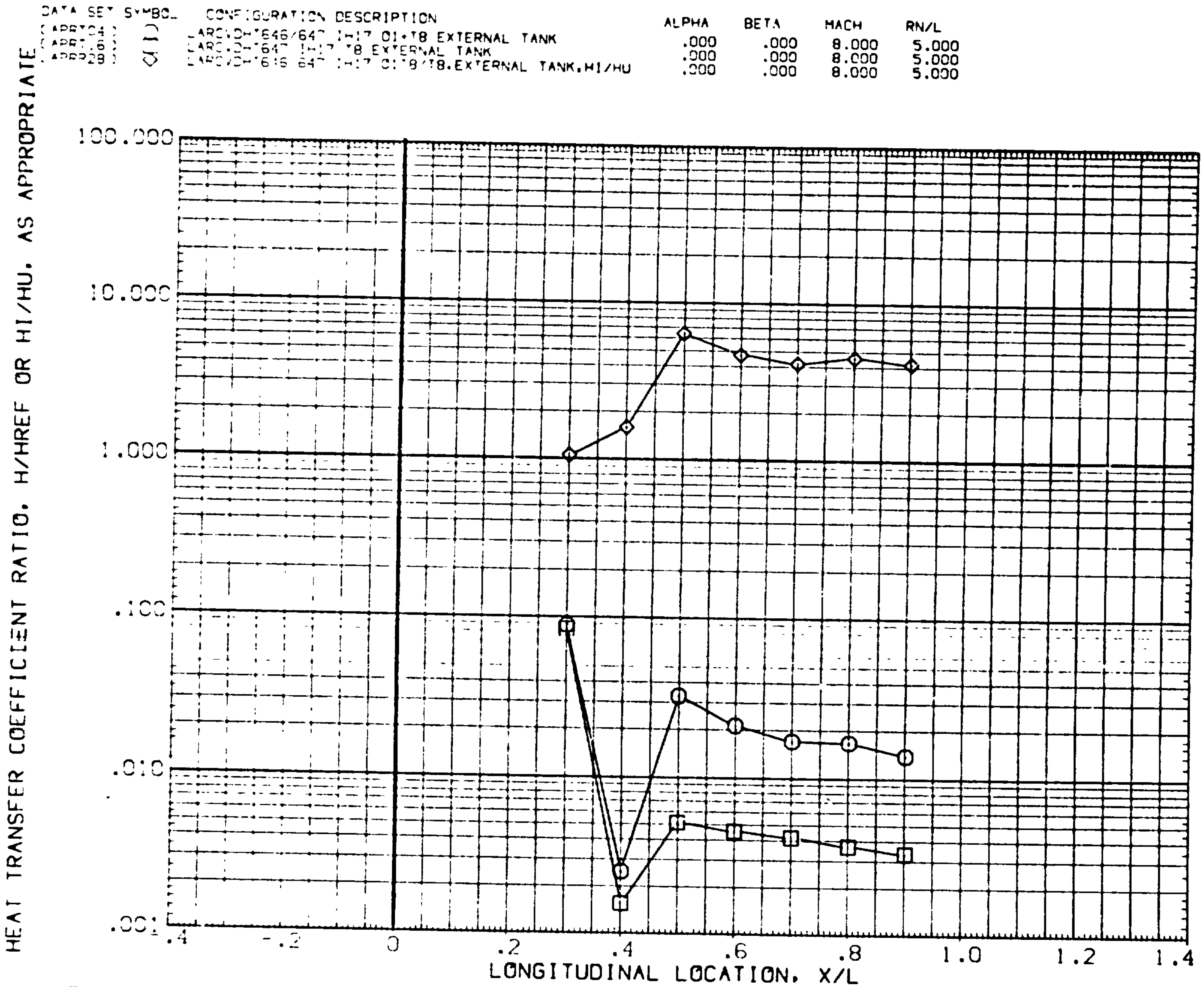


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAX/HT= .900 PHI = 112.500

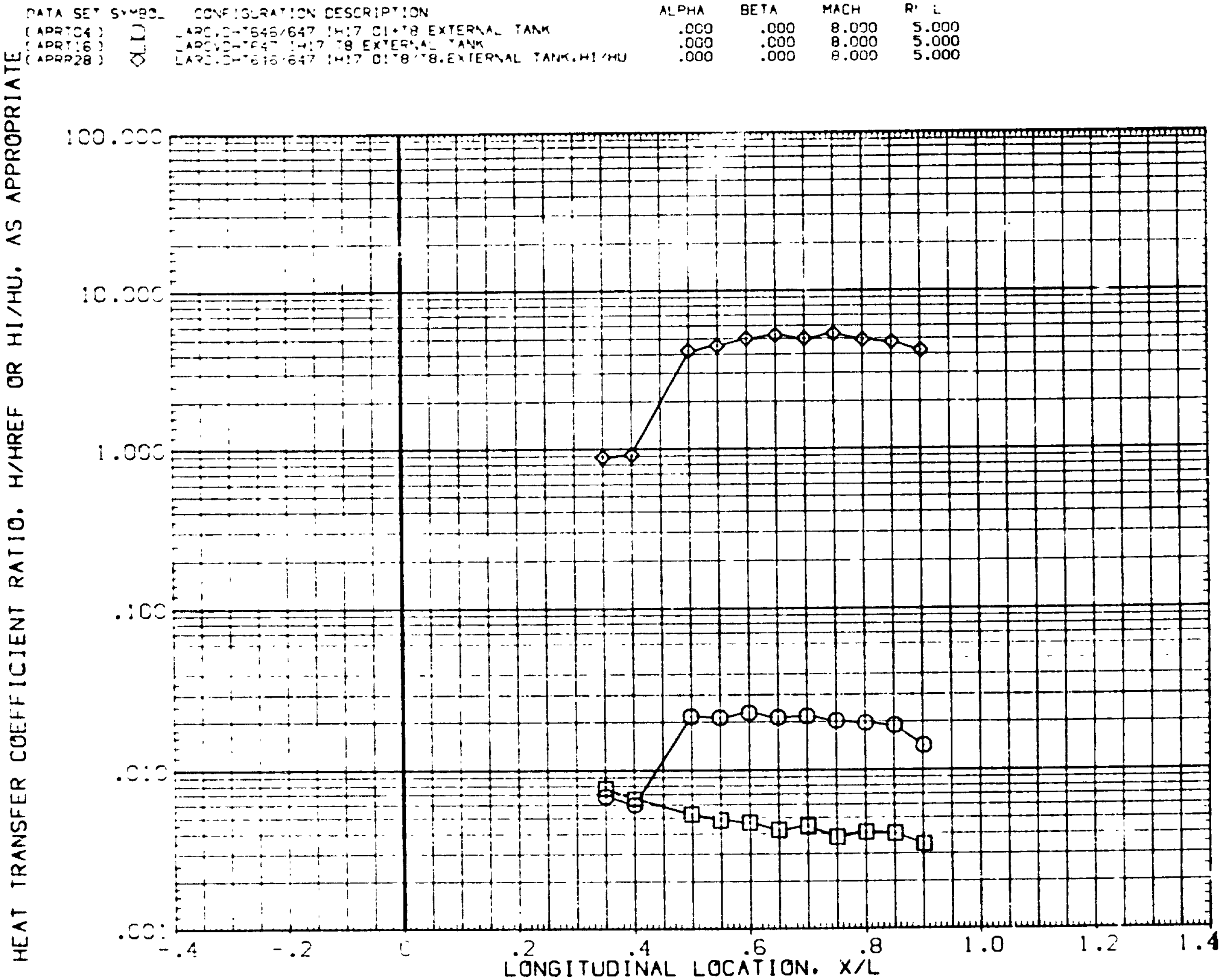


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 PHI = 135.000

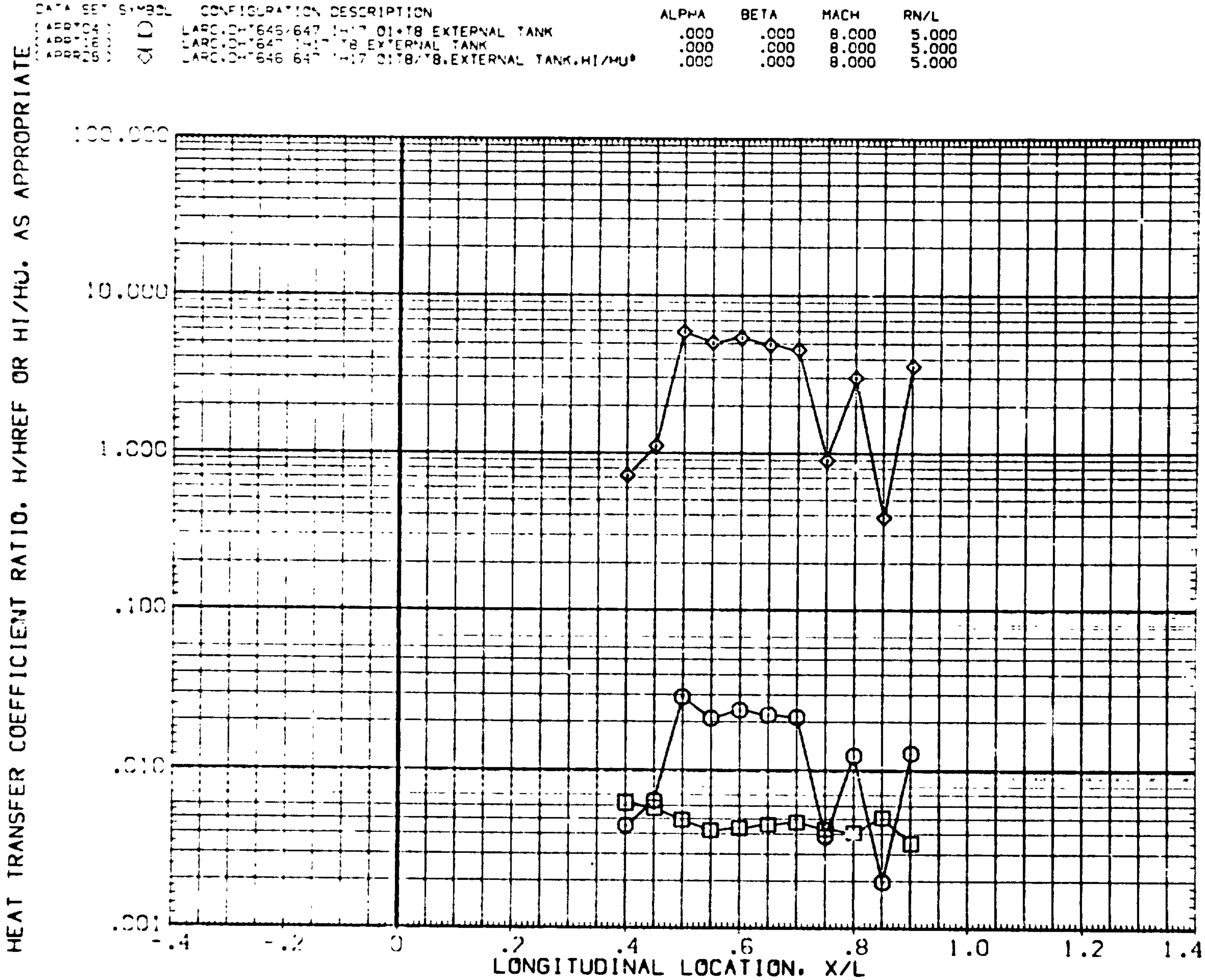


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 PHI = 157.500

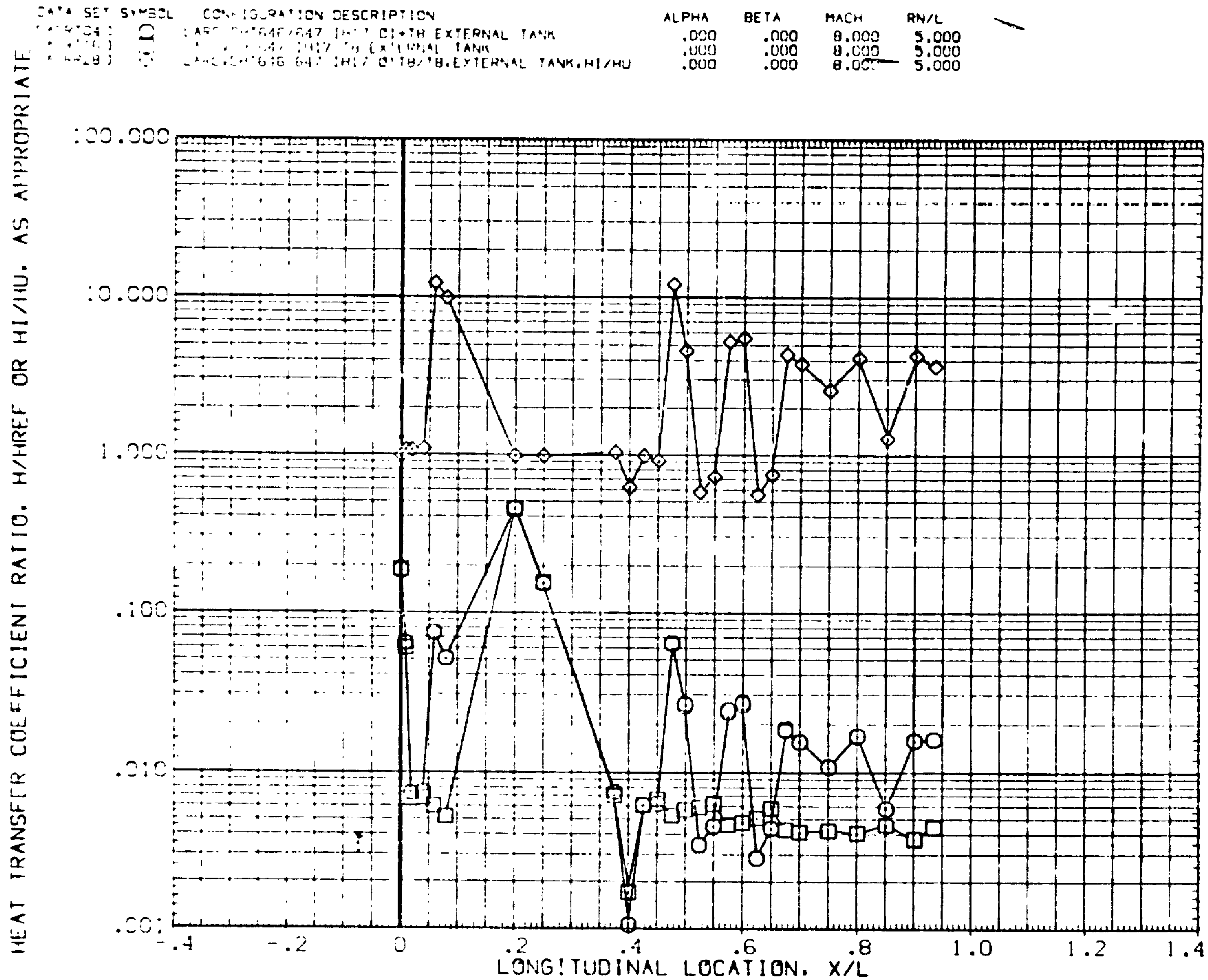


FIG. 31 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 PHI = 180.000

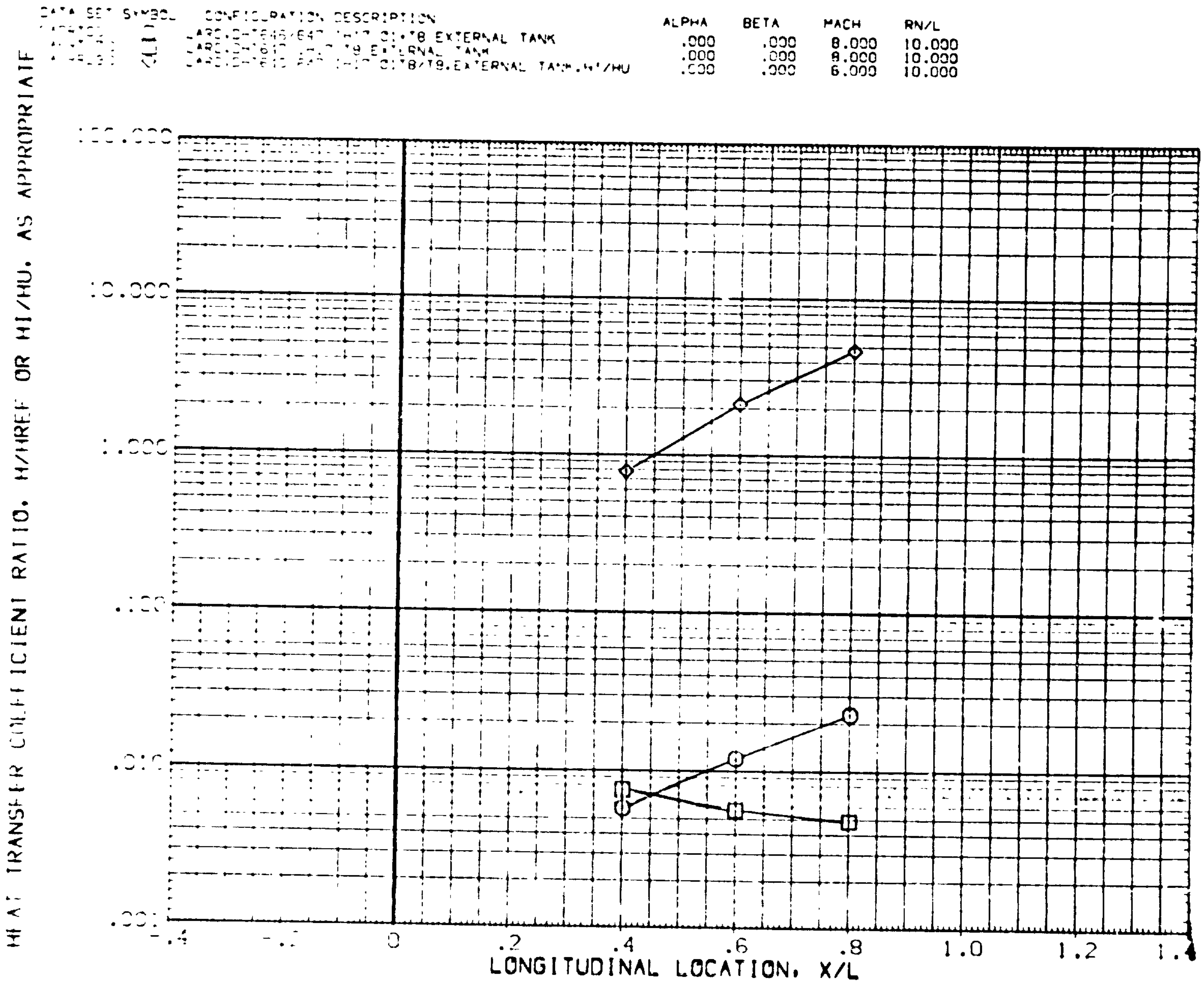


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

.850 PHI = .000

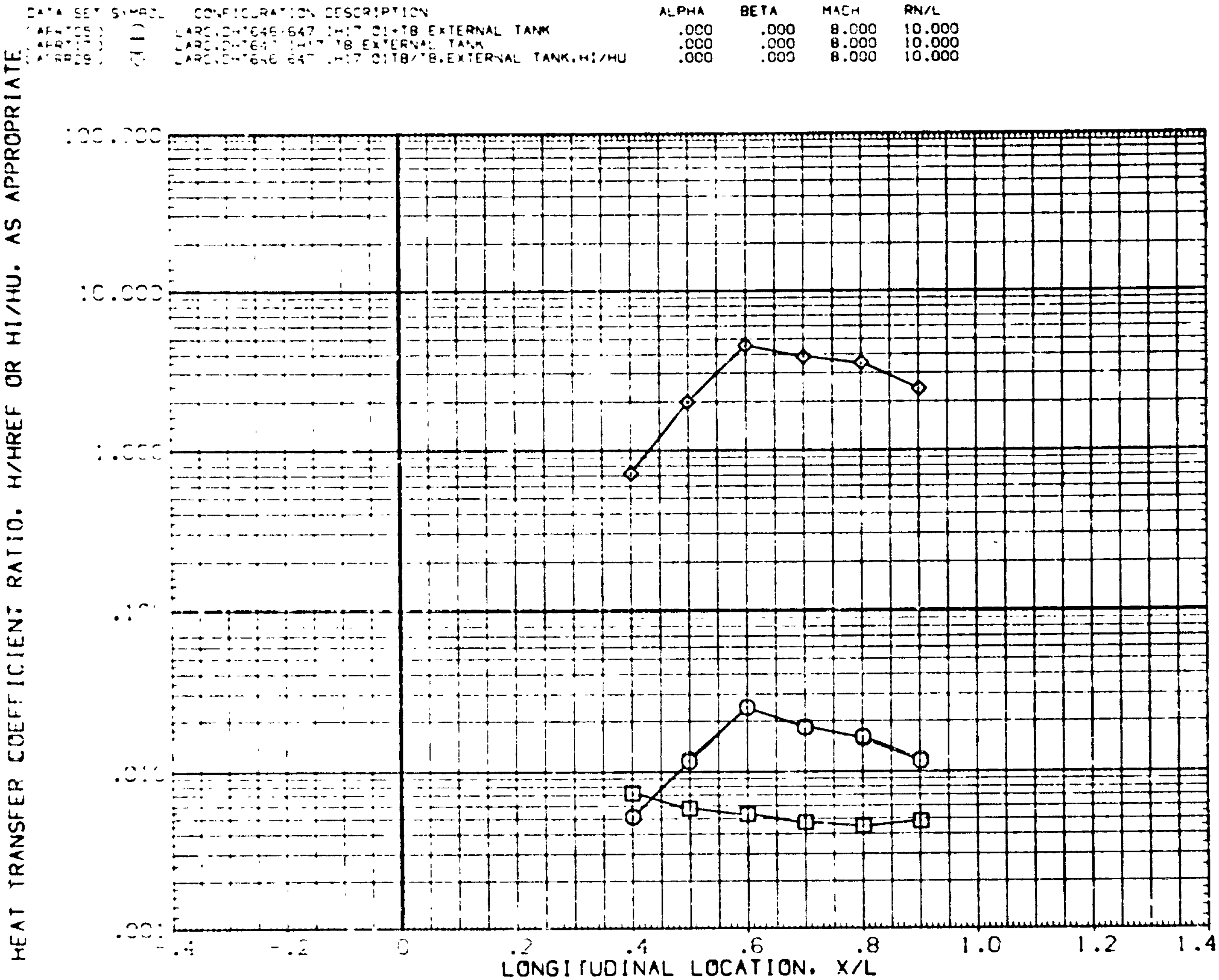


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 .850 PHI 45.000

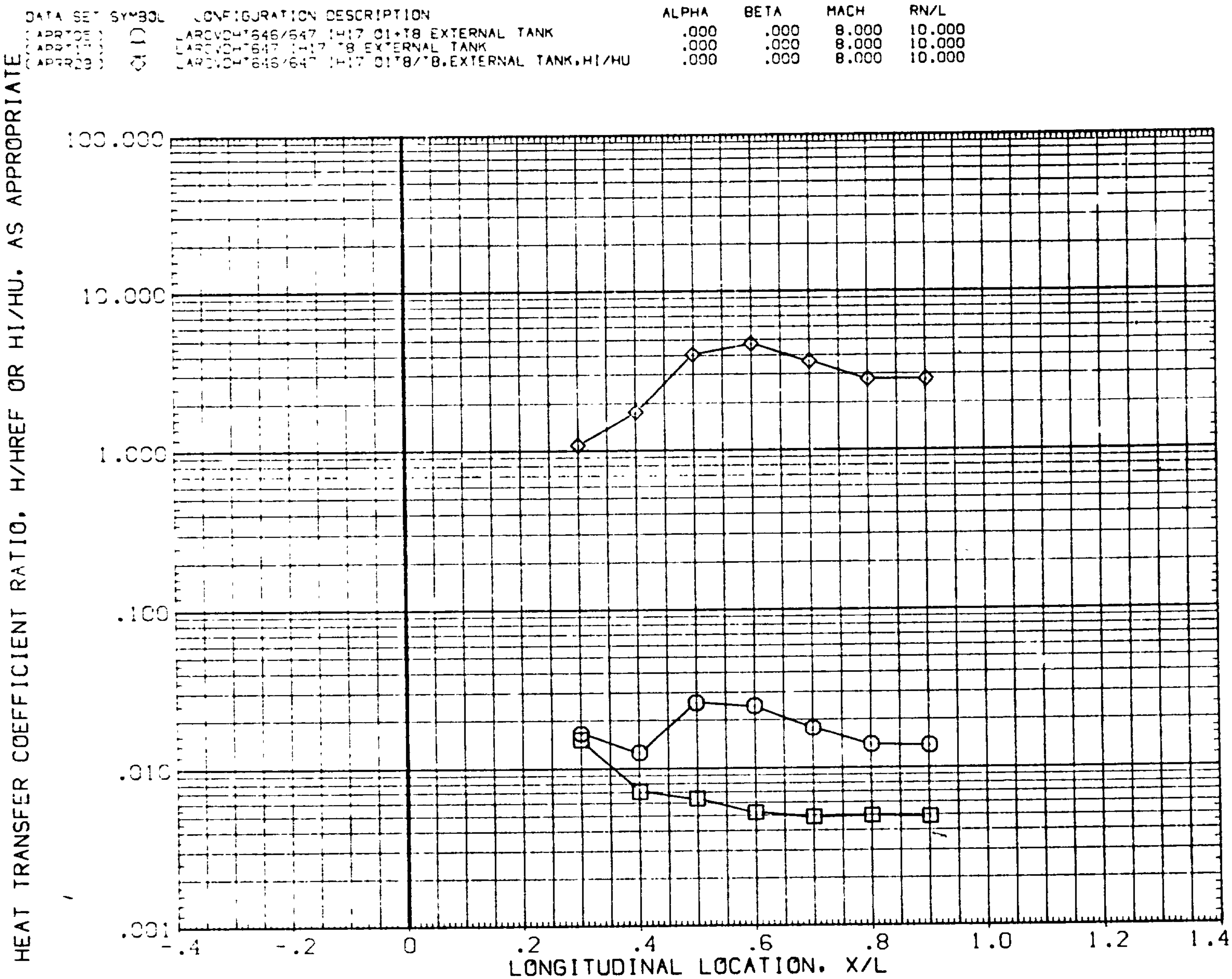


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 67.500

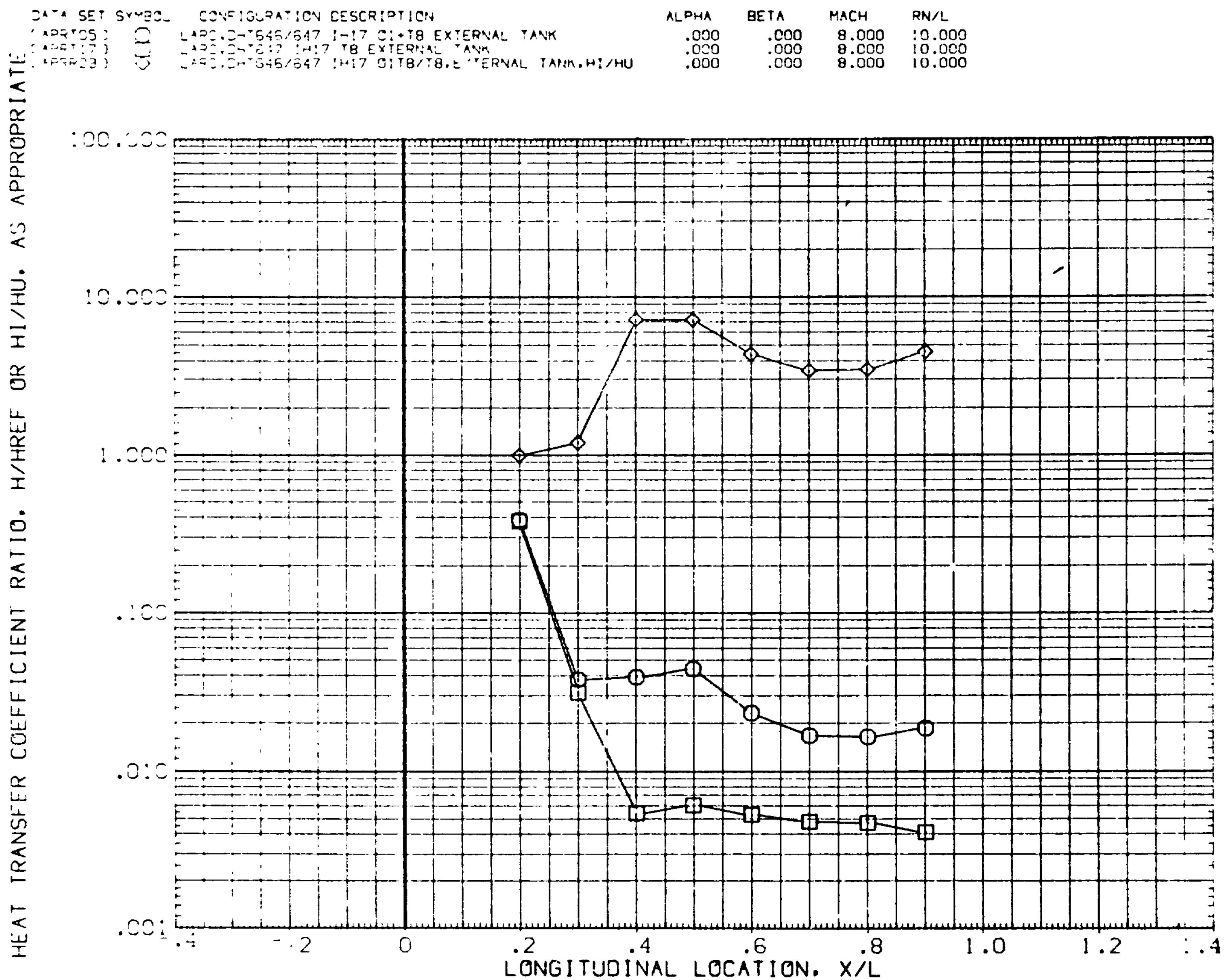


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 90.000

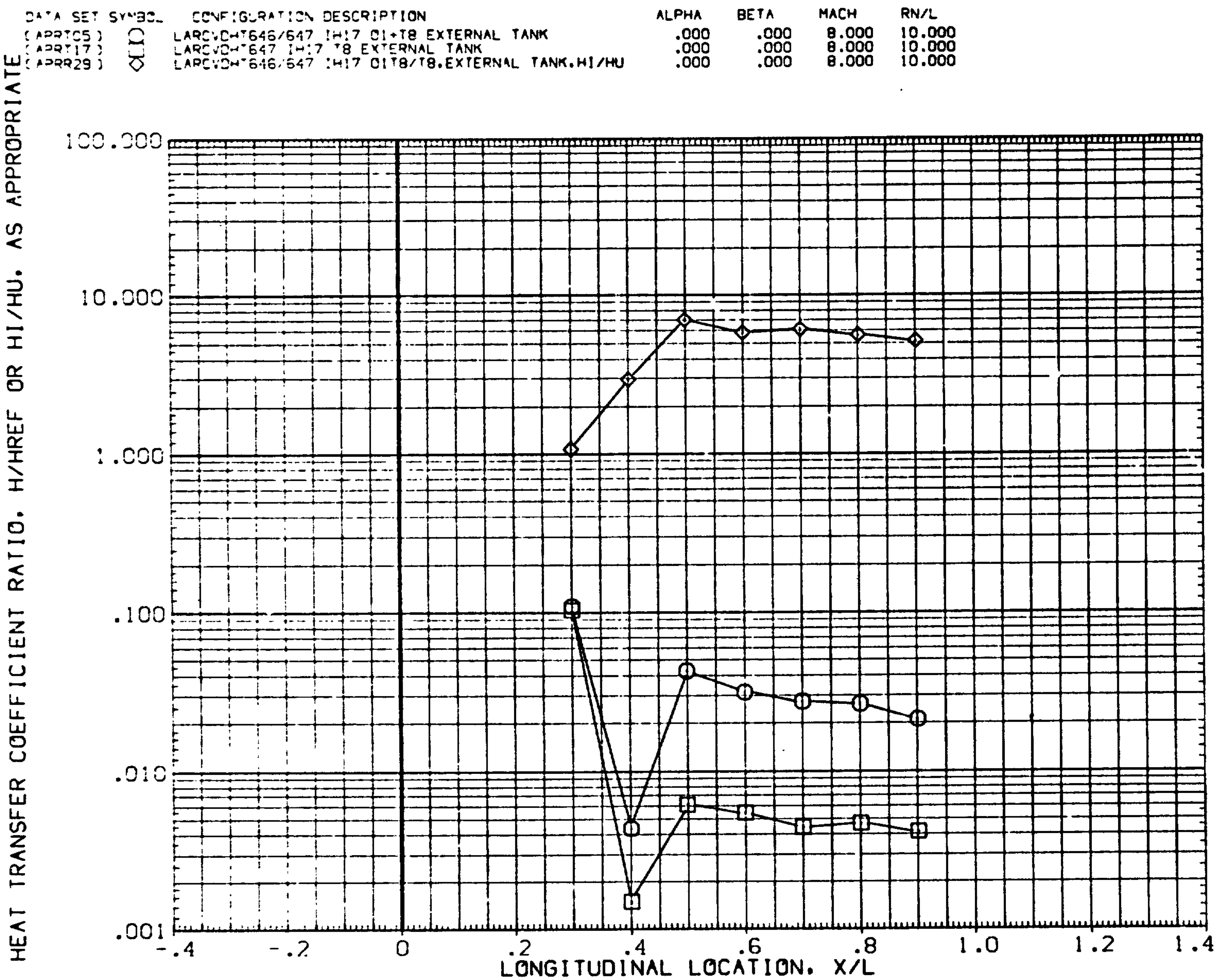


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 112.500

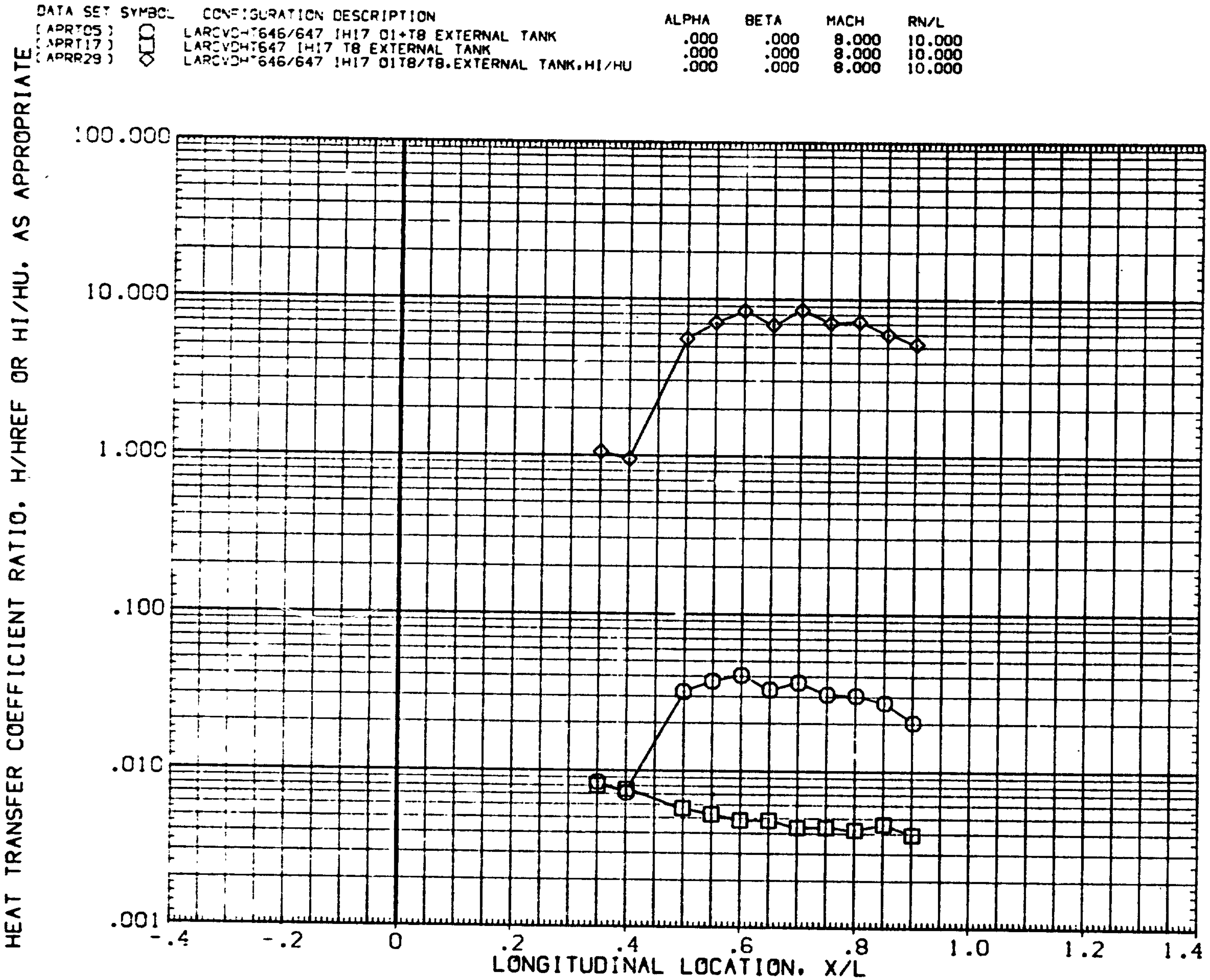


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 135.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT05)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	10.000
(APRT17)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	10.000
(APRR29)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	10.000

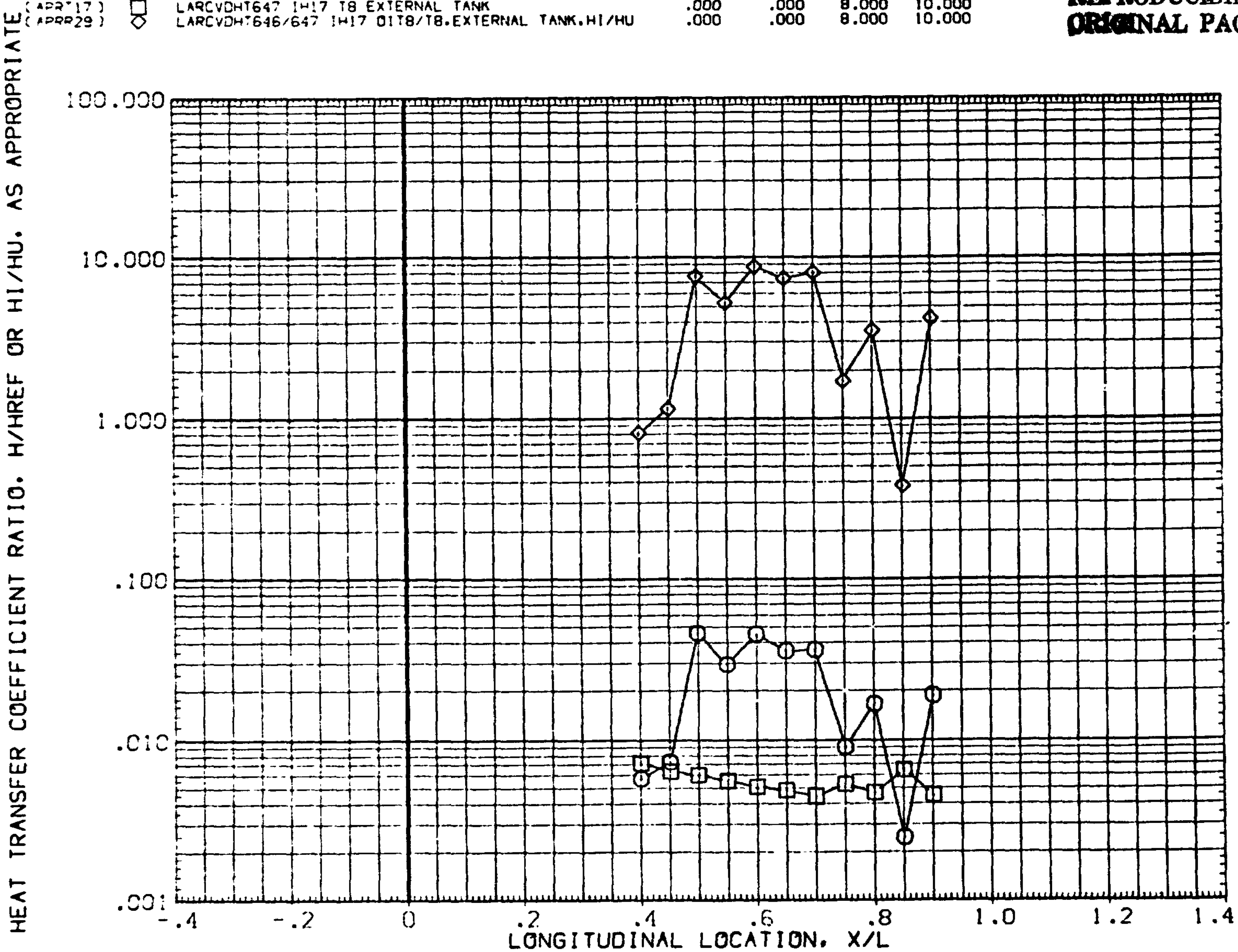


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 157.500

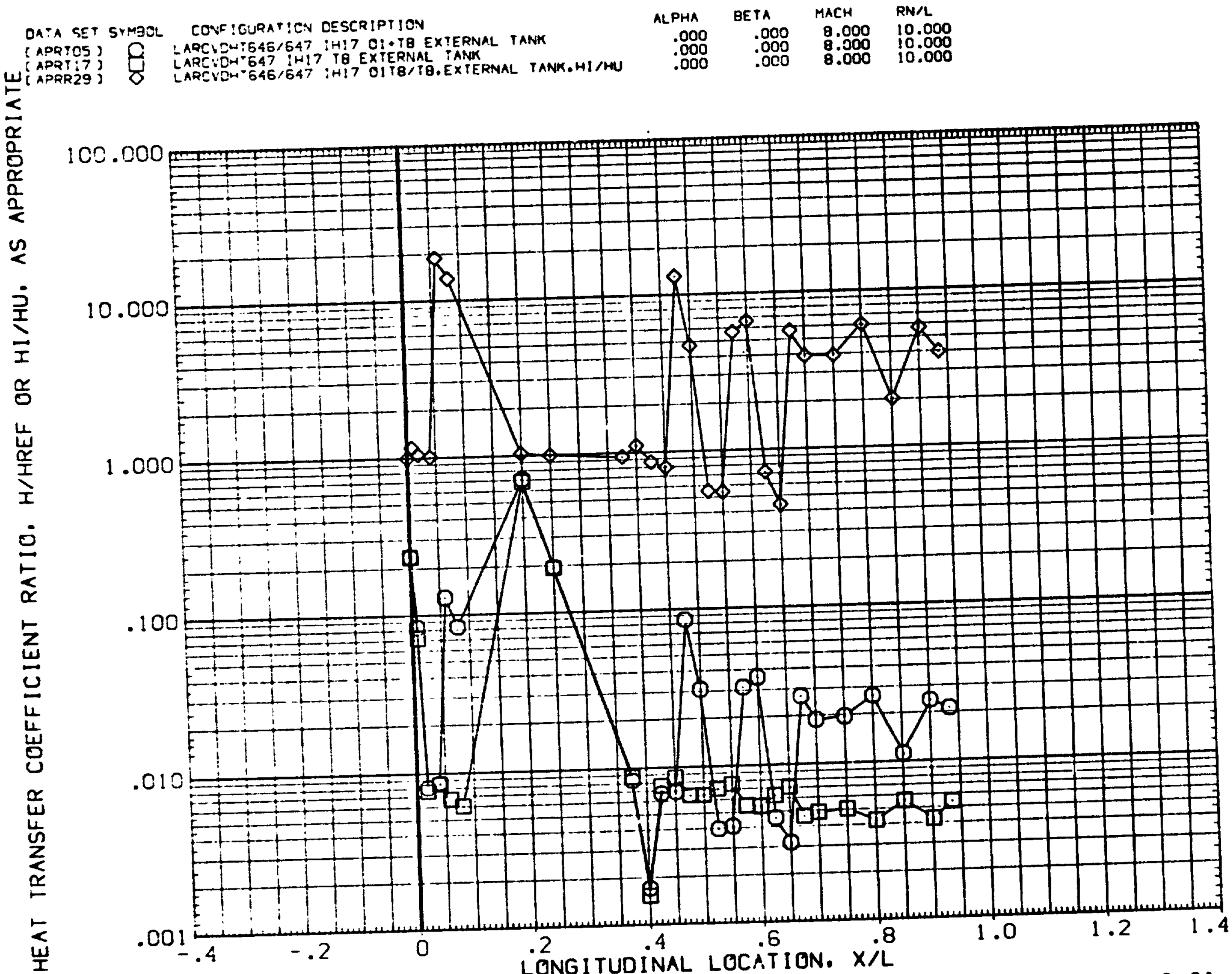


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 180.000

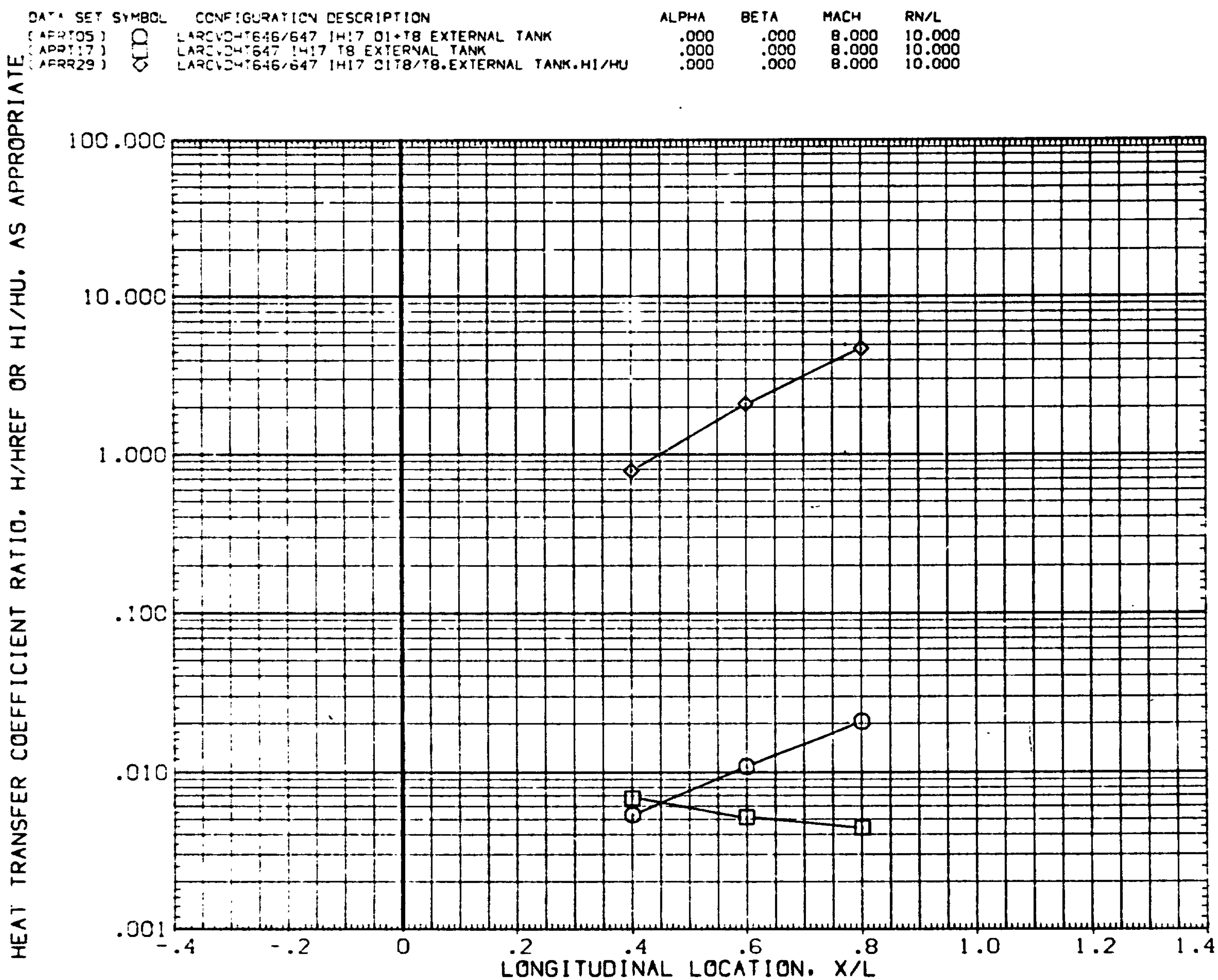


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT = .900 PHI = .000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT05)	○	LARCVCHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	10.000
(APRT17)	□	LARCVCHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	10.000
(APRR29)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	10.000

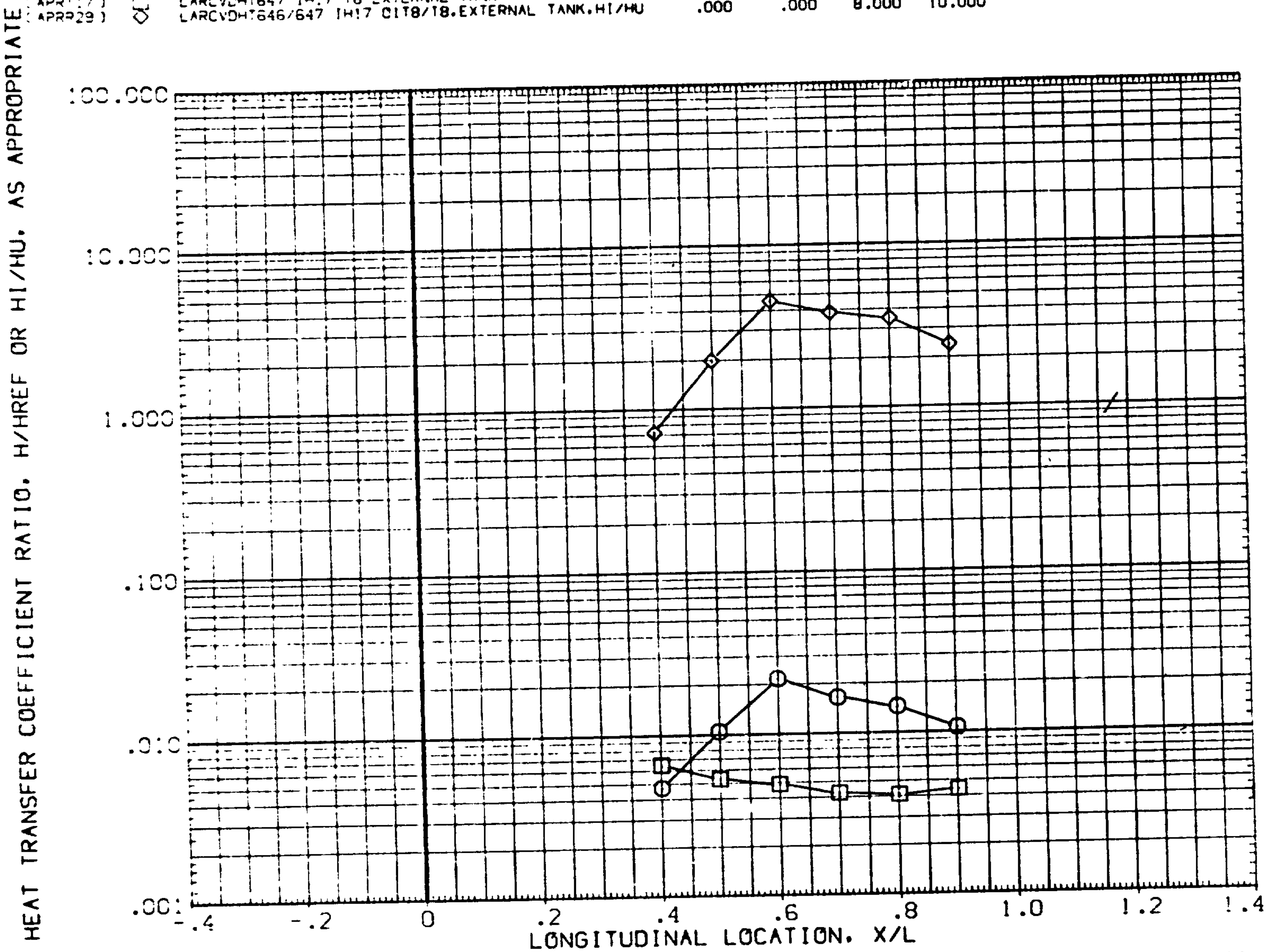


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = 45.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT05)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	10.000
(APRT17)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	10.000
(APRR29)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	10.000

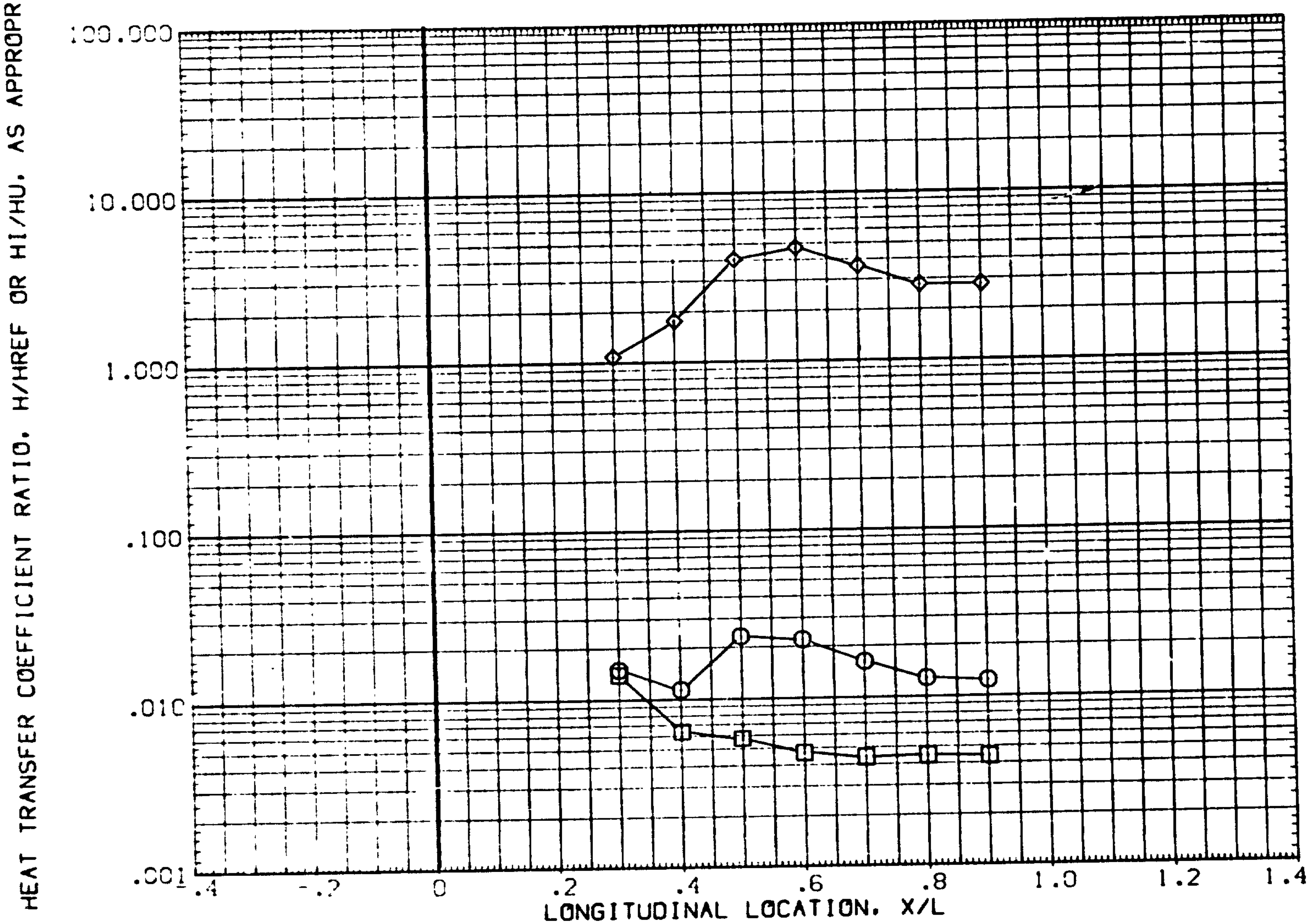


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = 67.500

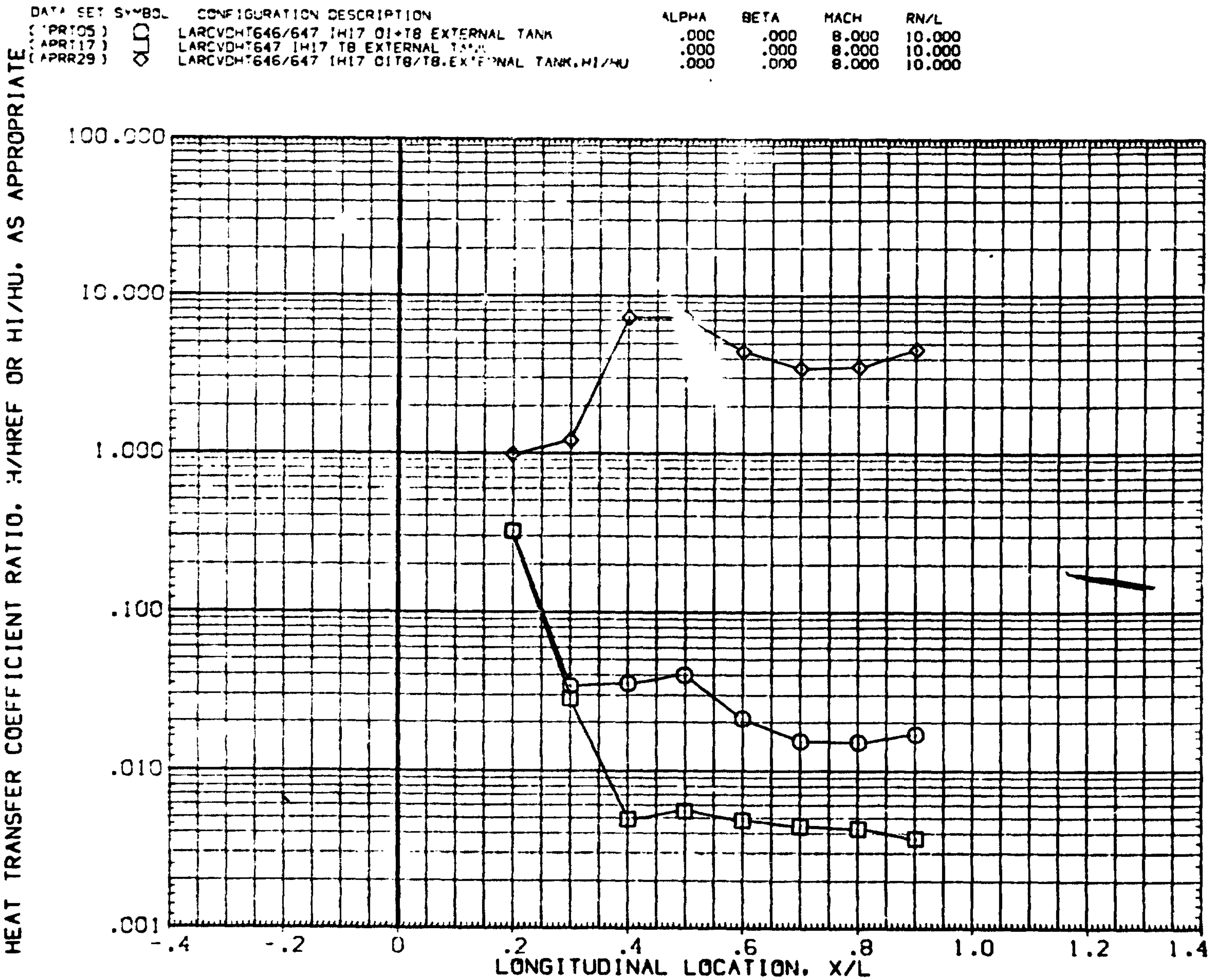


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = 90.000

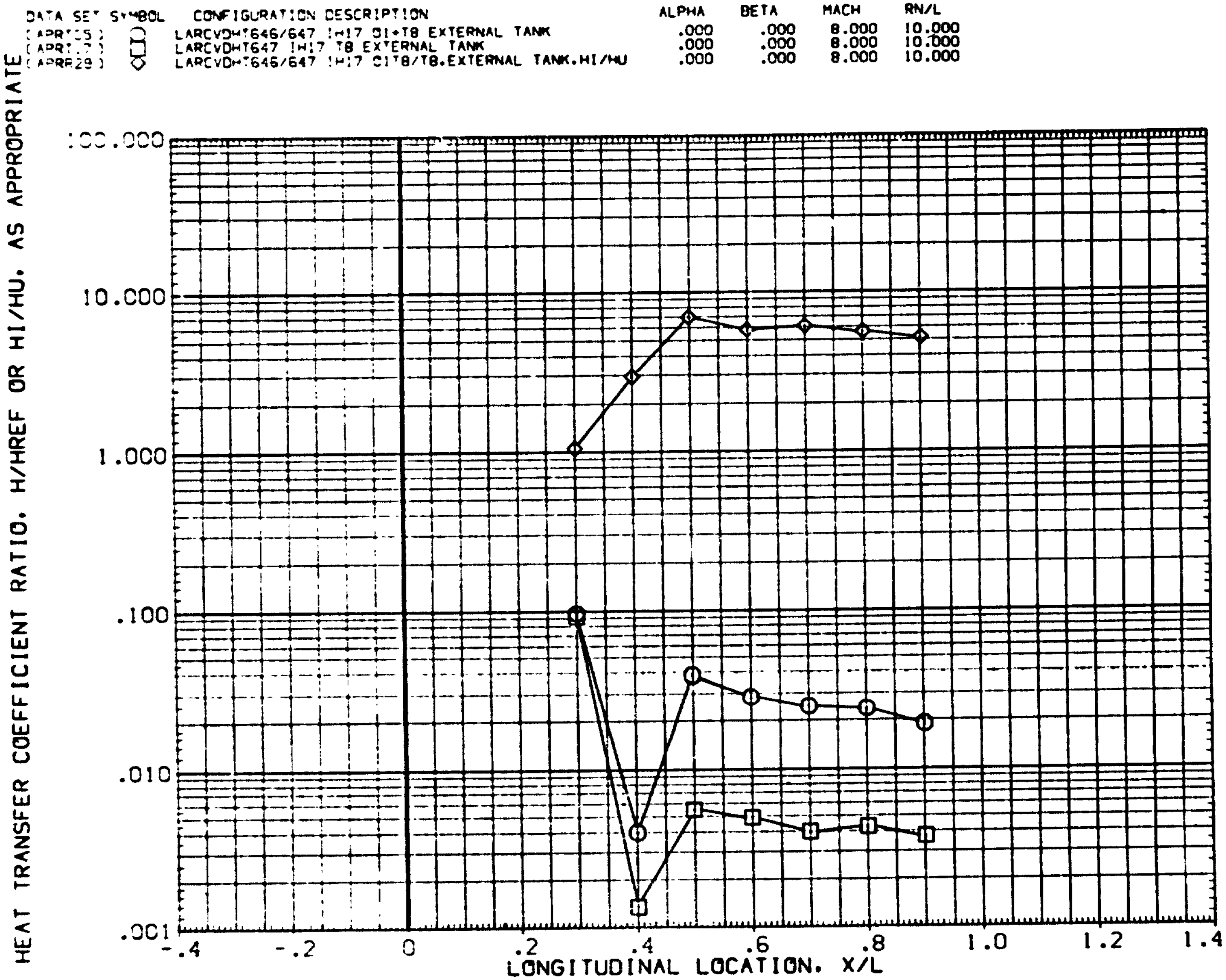


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT = .900 PHI = 112.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT05)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	.000	.000	8.000	10.000
(APRT17)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	.000	.000	8.000	10.000
(APRR29)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	.000	.000	8.000	10.000

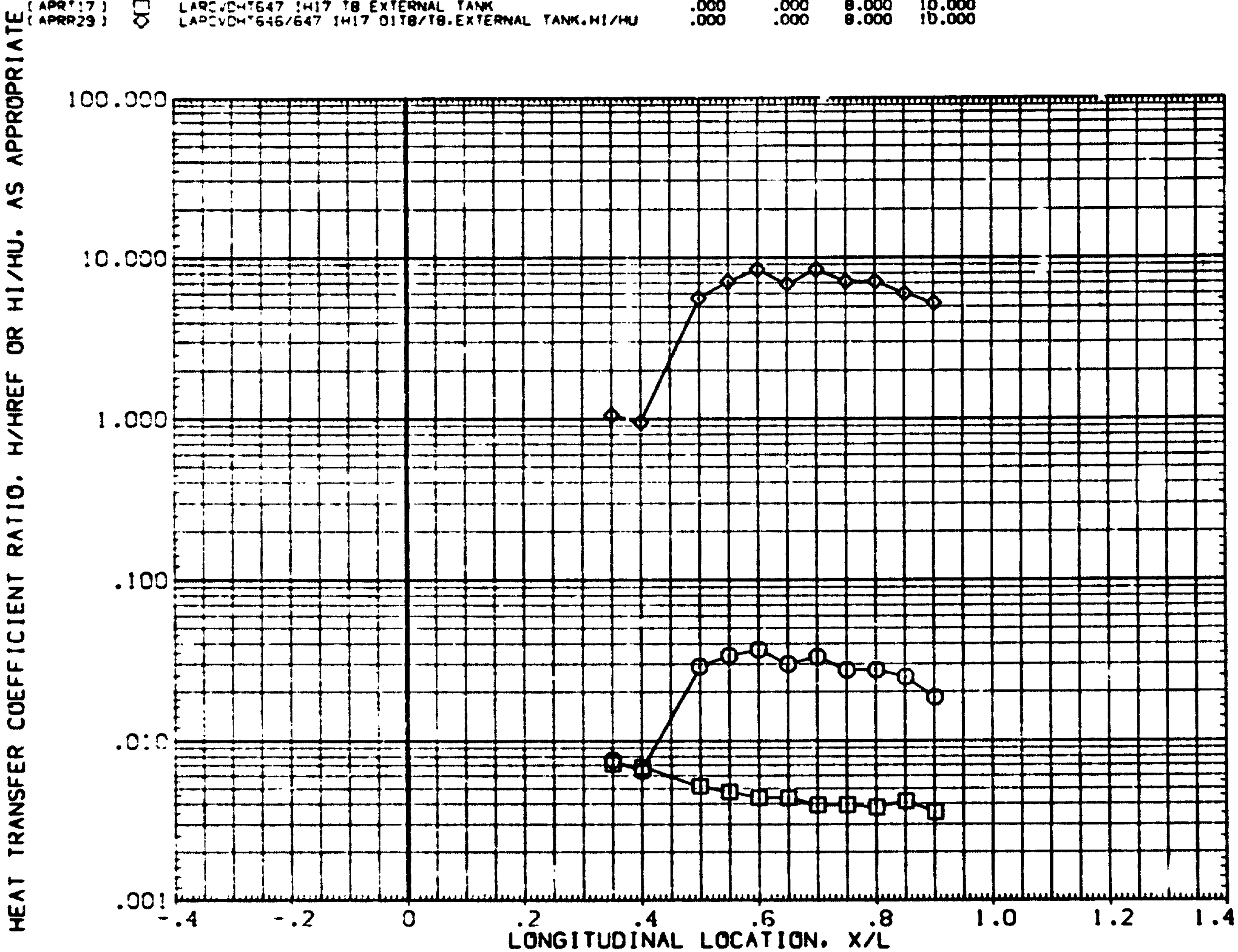


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = 135.000

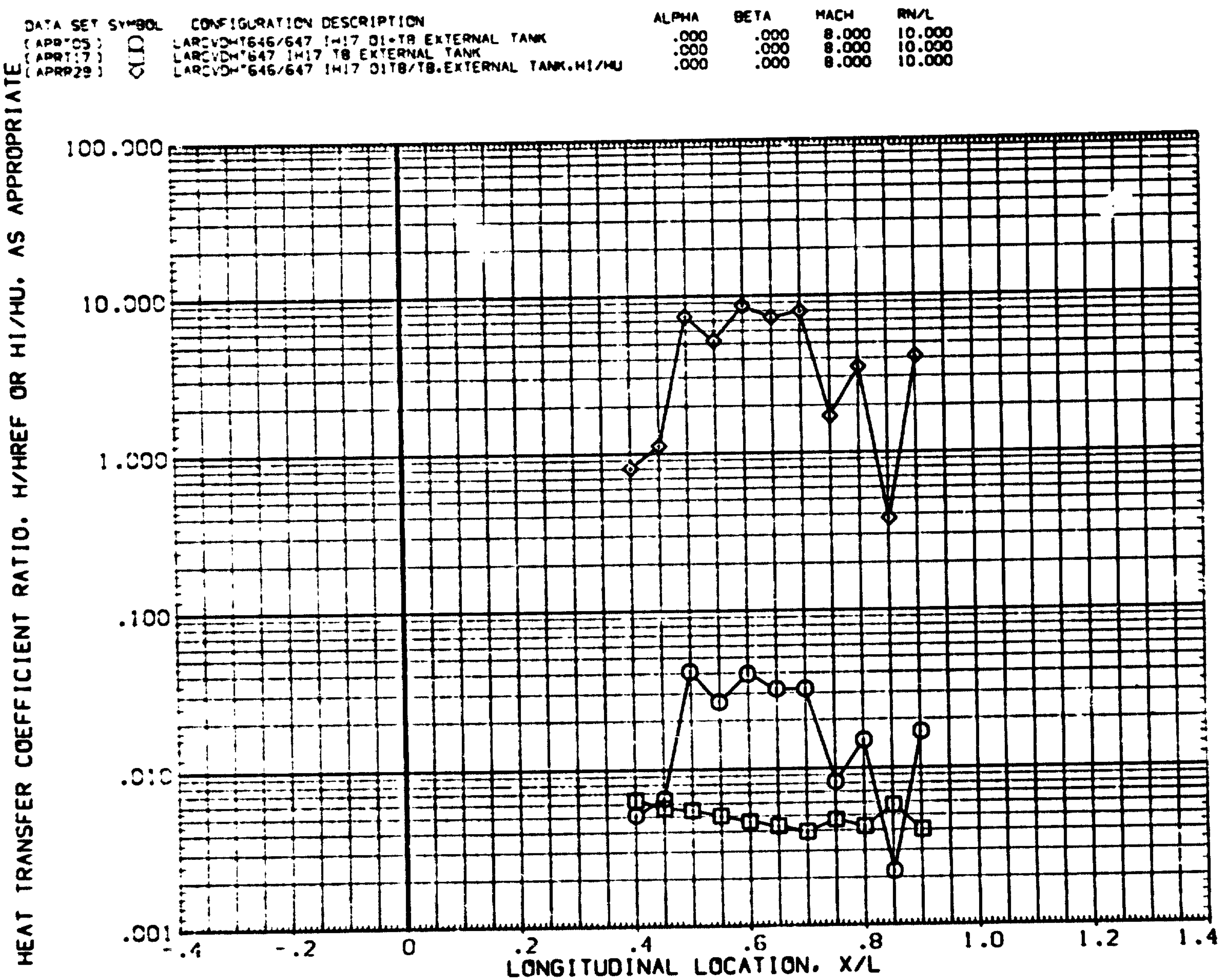


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI : 157.500

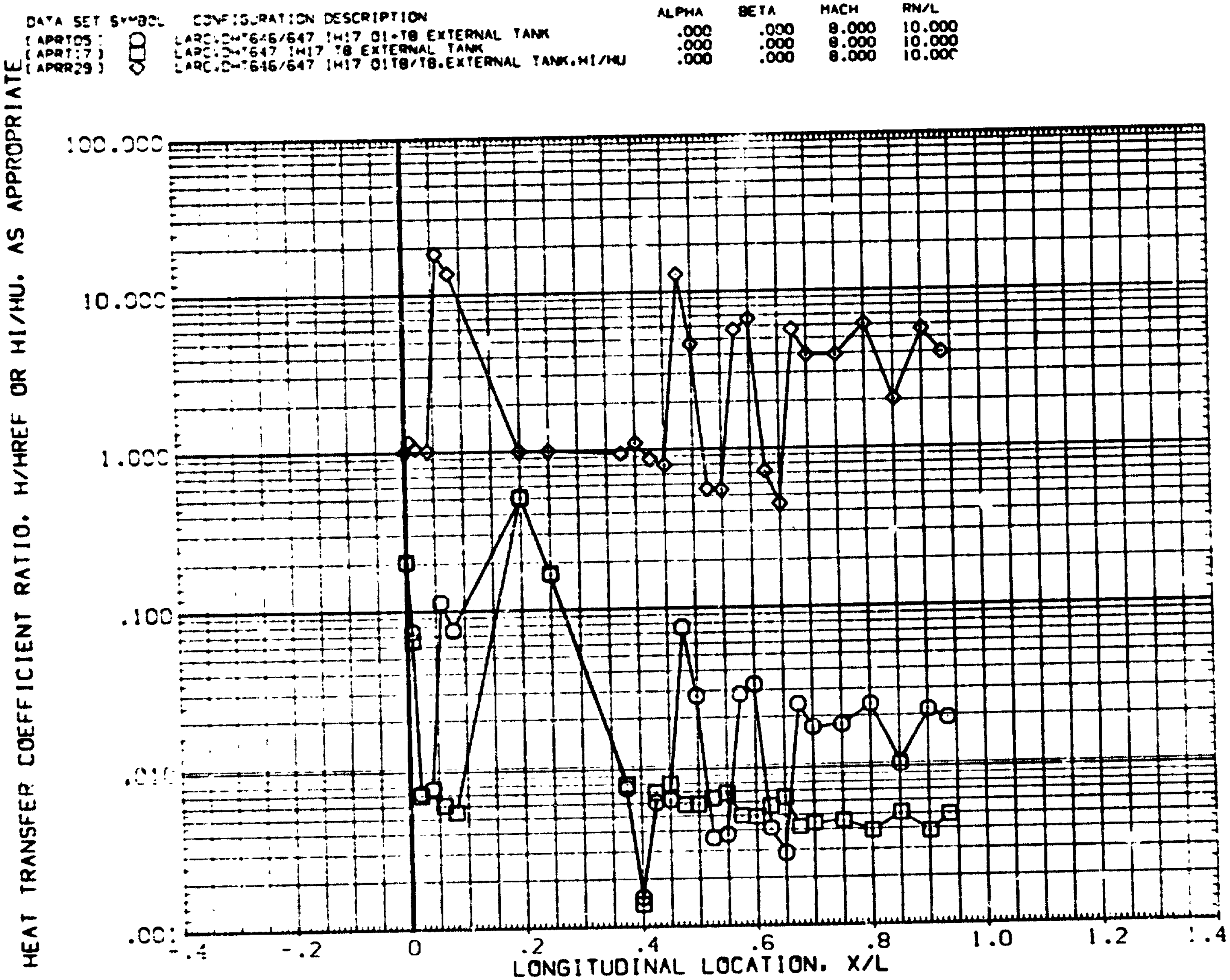


FIG. 32 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRTC6)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	-5.000	.000	8.000	.100
(APRT18)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	-5.000	.000	8.000	.100
(APRR30)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	-5.000	.000	8.000	.100

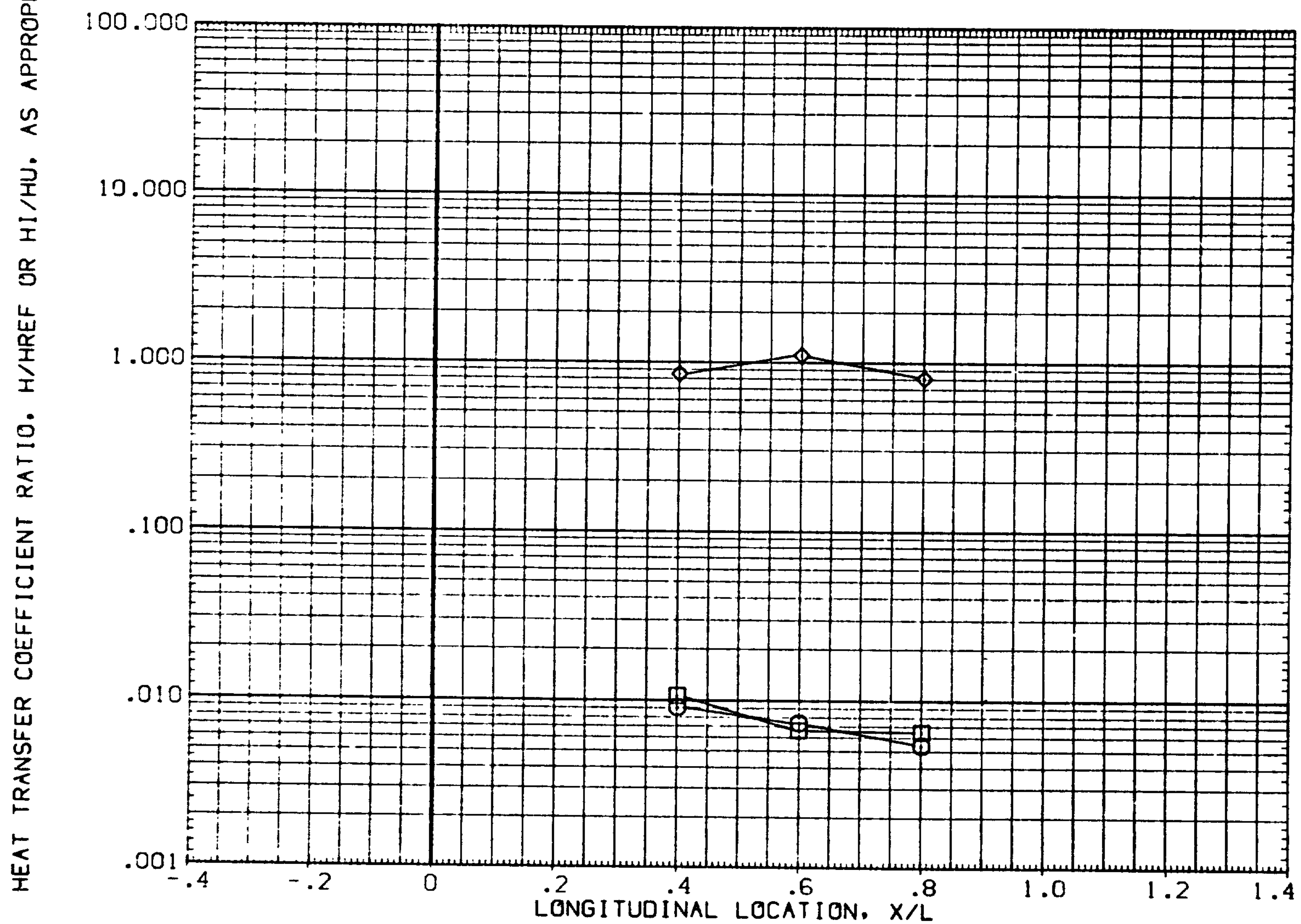


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .850 PHI = .000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT06)	○	LARCVDHT646/647 IH17 OI+T8 EXTERNAL TANK	-5.000	.000	8.000	.100
(APRT18)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	-5.000	.000	8.000	.100
(APRR30)	◇	LARCVDHT646/647 IH17 OIT8/T8.EXTERNAL TANK.HI/HU	-5.000	.000	8.000	.100

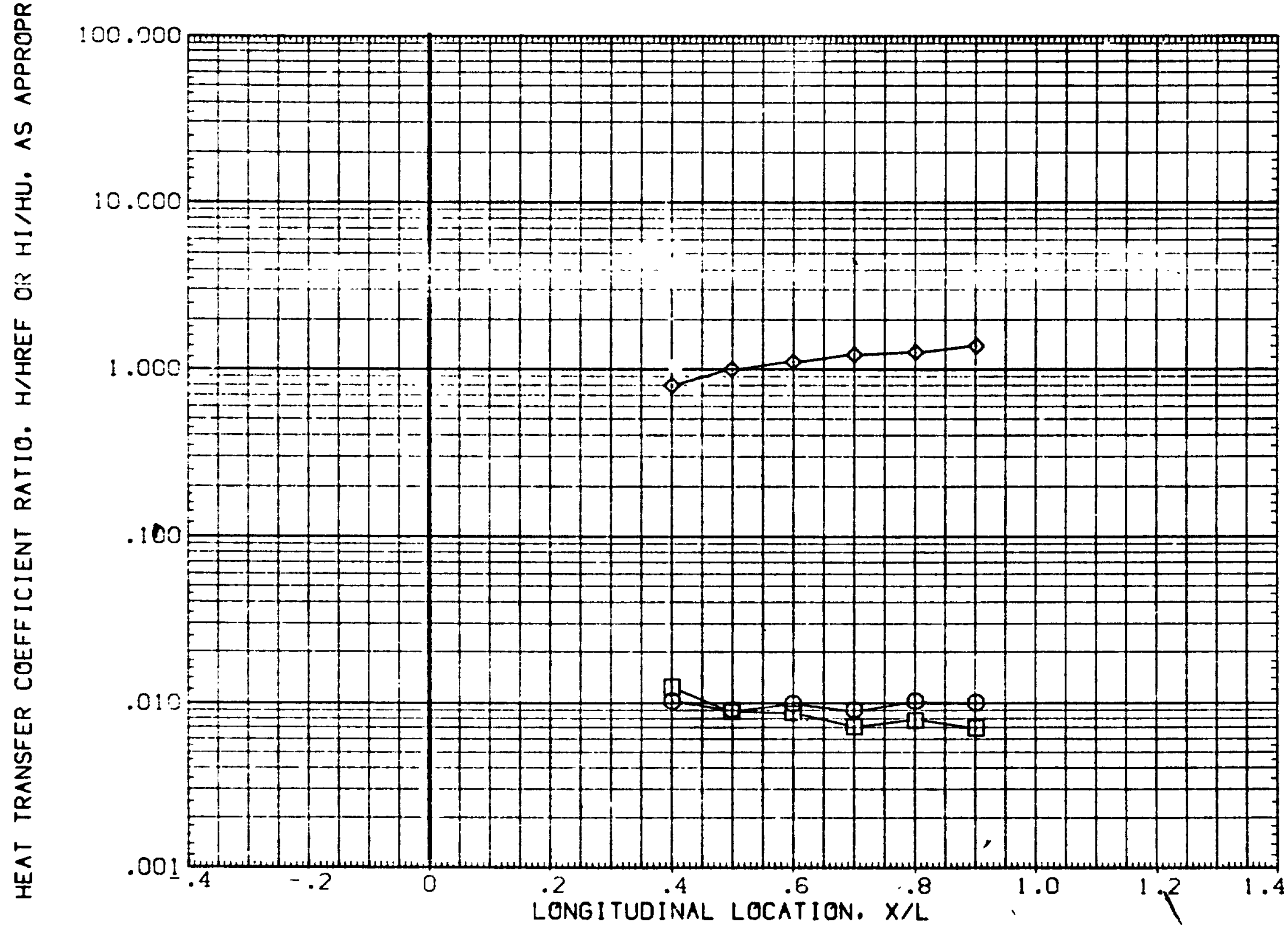


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .850 PHI = 45.000

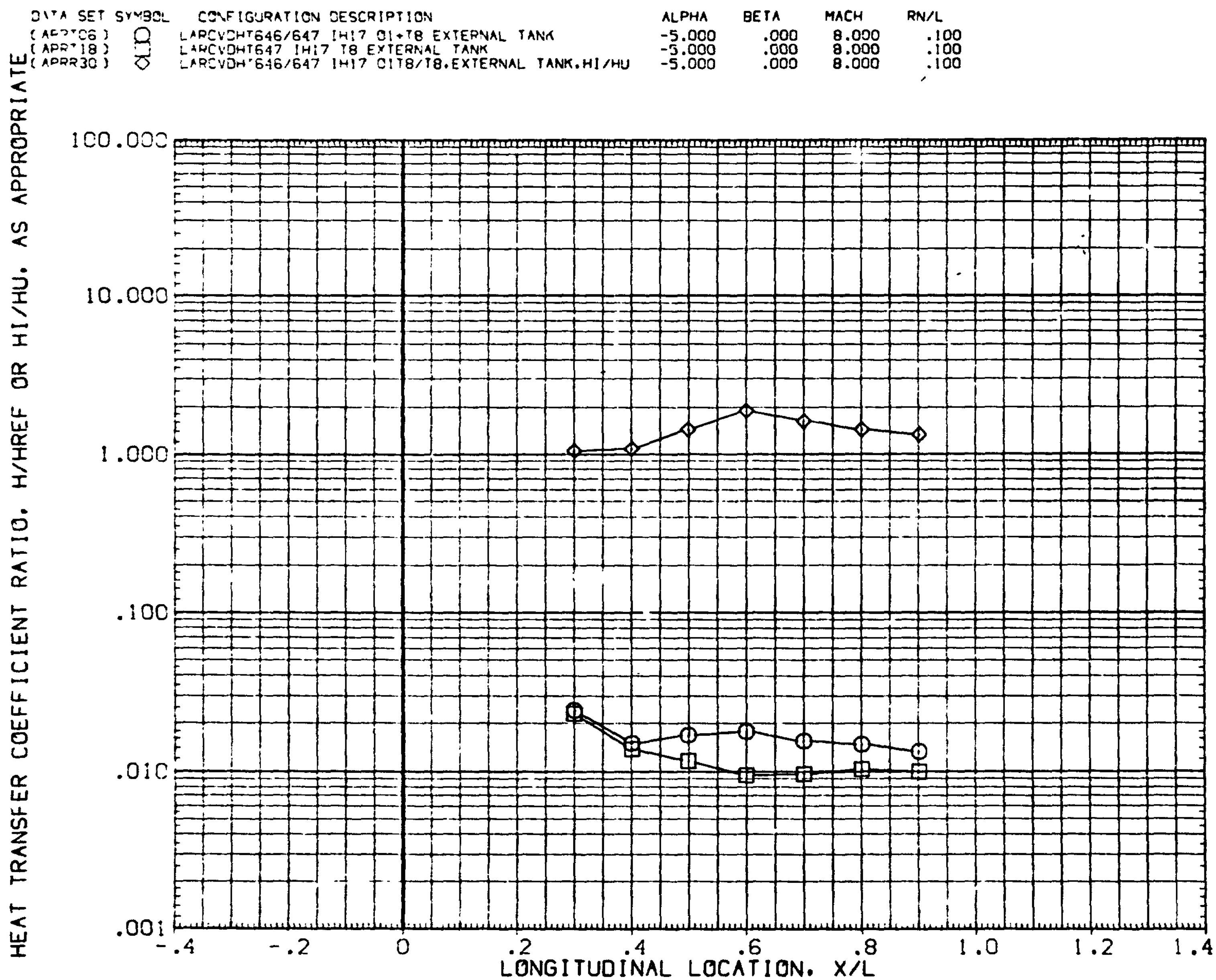


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .850 PHI = 67.500

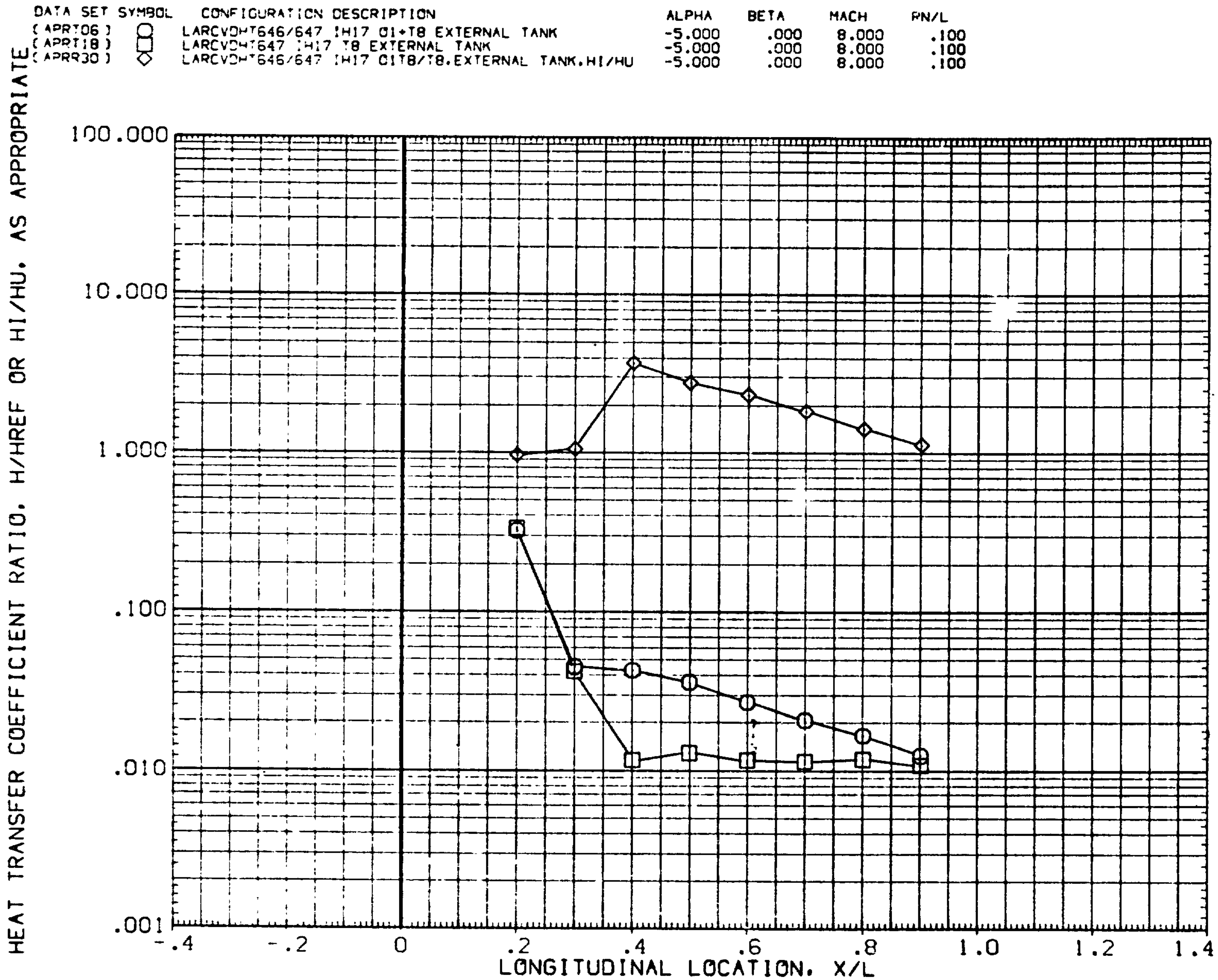


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .850 PHI = 90.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRTC6)	○	LARCVDHT646/647 IH17 C1+T8 EXTERNAL TANK	-5.000	.000	8.000	.100
(APRT18)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	-5.000	.000	8.000	.100
(APRR30)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	-5.000	.000	8.000	.100

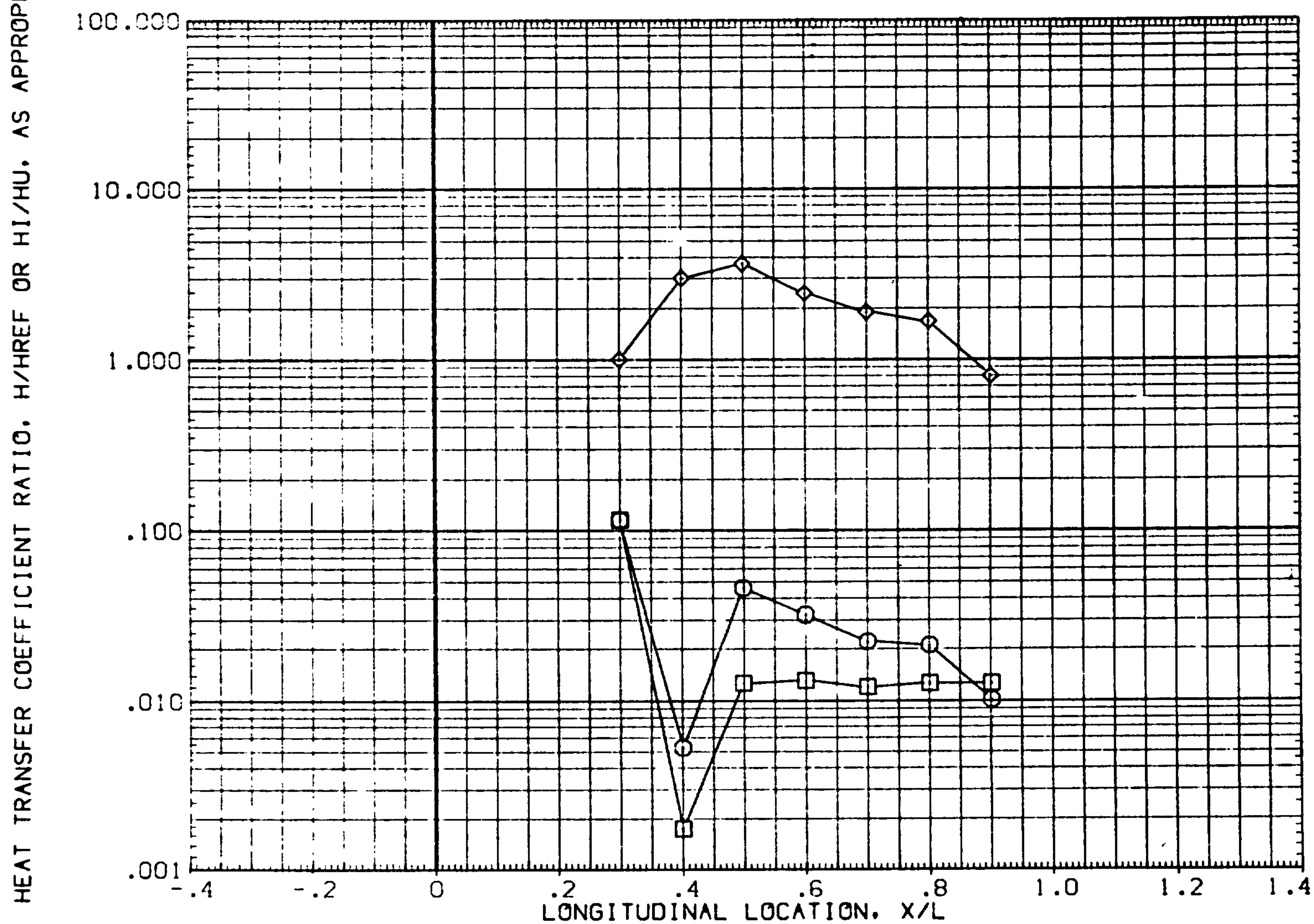


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .850 PHI = 112.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRTC6)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	-5.000	.000	8.000	.100
(APPT1P)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	-5.000	.000	8.000	.100
(APRRG0)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	-5.000	.000	8.000	.100

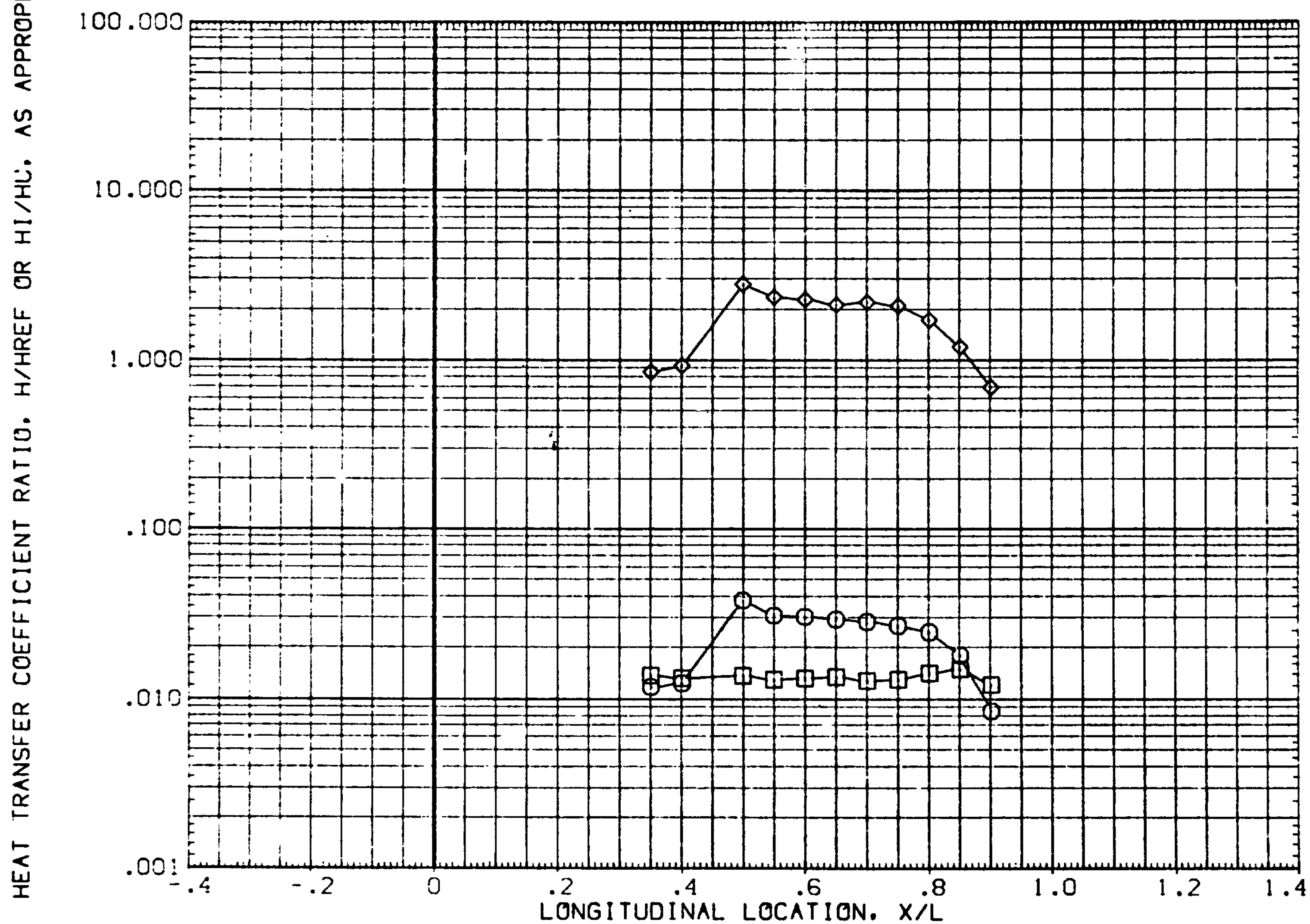


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .850 PHI = 135.000

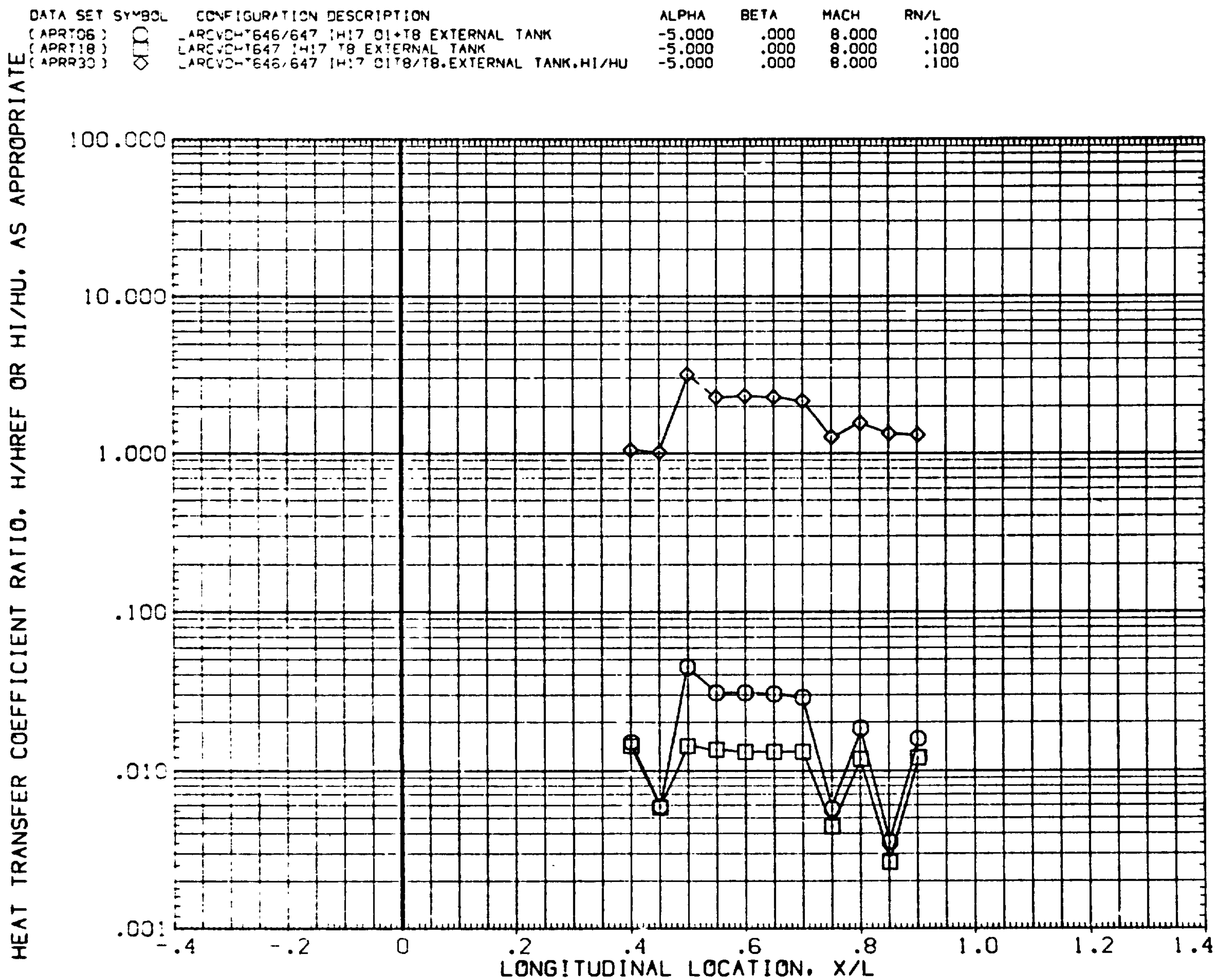


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .850 PHI = 157.500

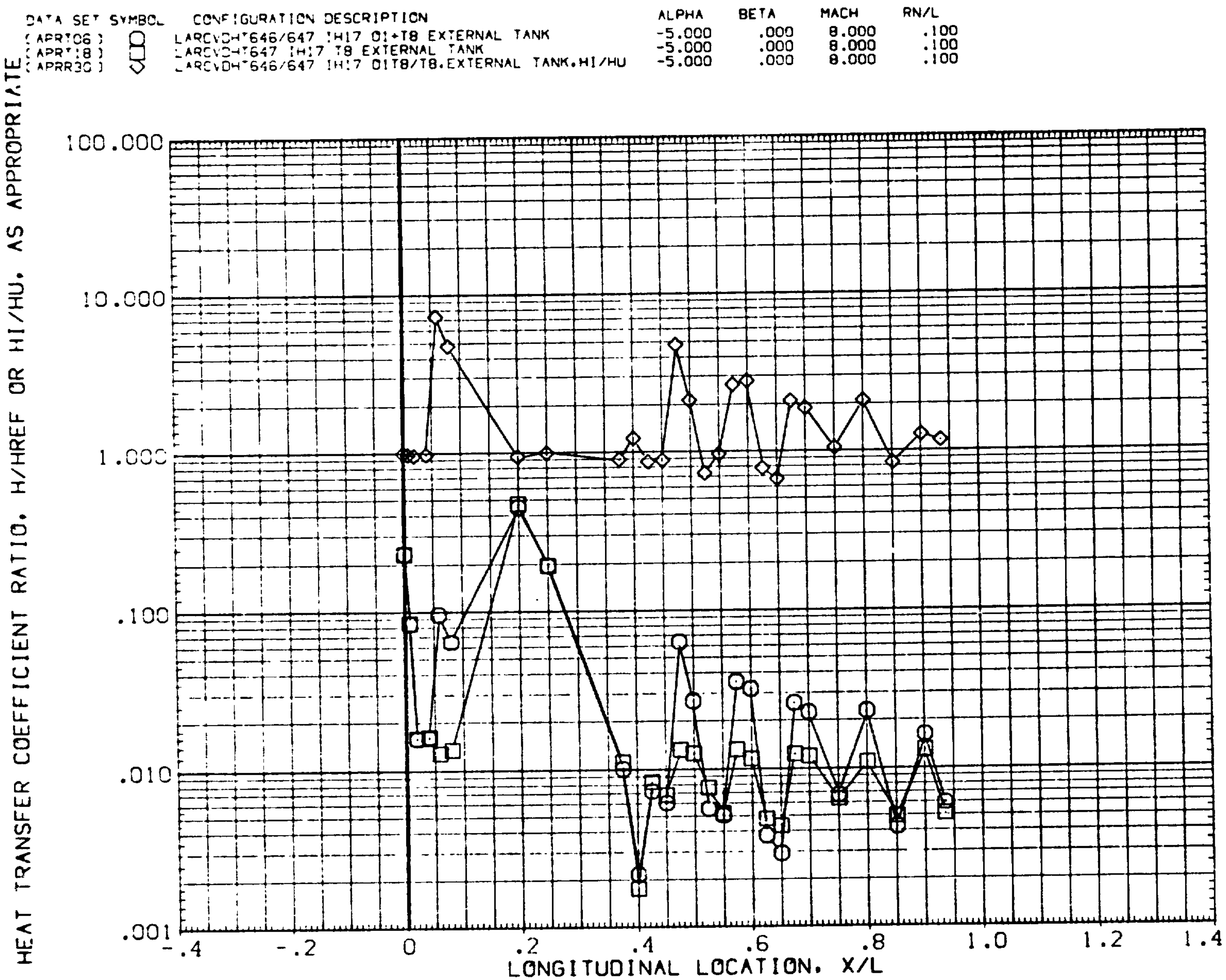


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .850 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT06)	○	LARCVOHT646/647 IH17 O1+T8 EXTERNAL TANK	-5.000	.000	8.000	.100
(APRT18)	□	LARCVOHT647 IH17 T8 EXTERNAL TANK	-5.000	.000	8.000	.100
(APRR30)	◇	LARCVOHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	-5.000	.000	8.000	.100

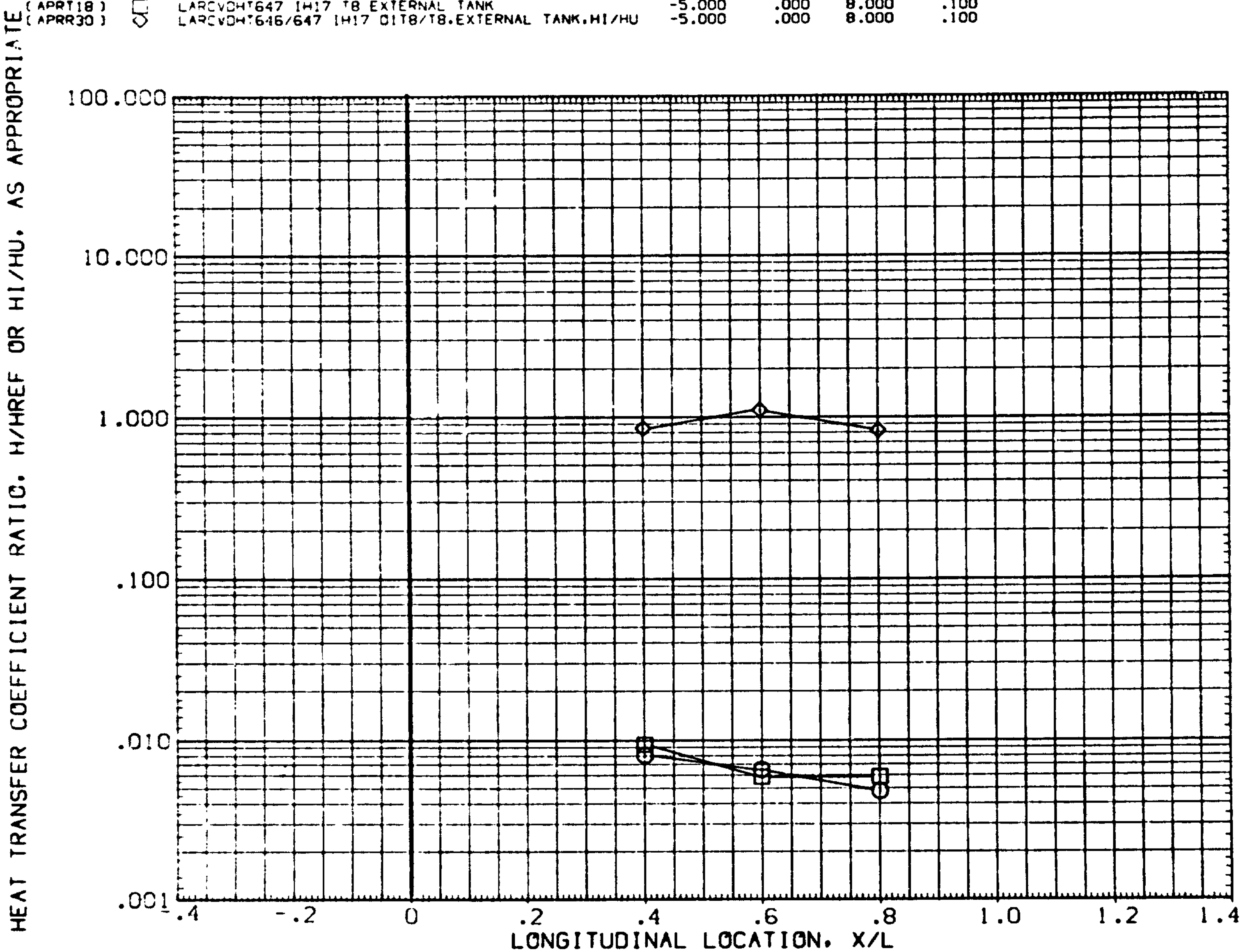


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 PHI = .000

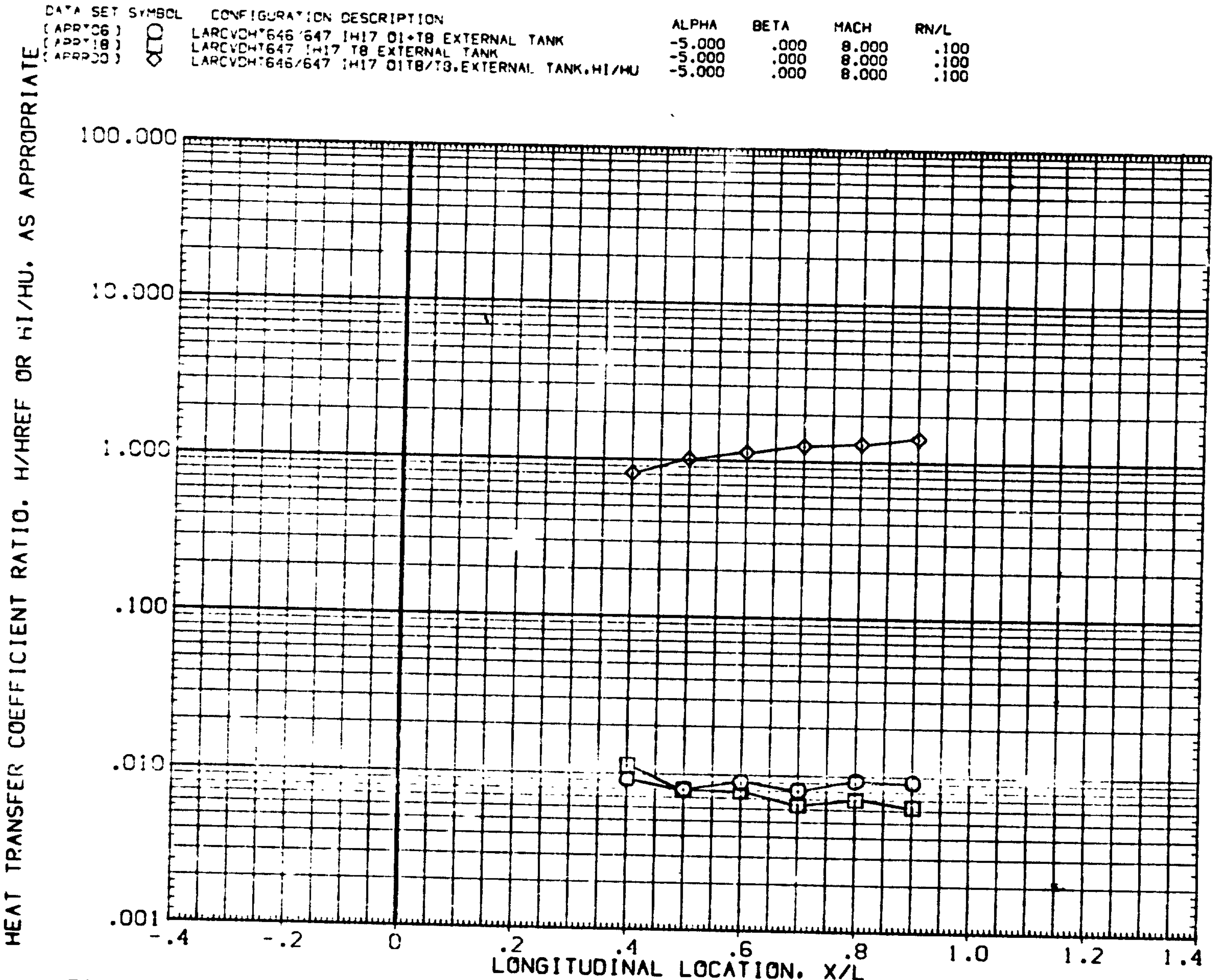


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 PHI = 45.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT06)	○	LARCVDHT646/647 IH17 OI+TB EXTERNAL TANK	-5.000	.000	8.000	.100
(APRT18)	□	LARCVDHT647 IH17 TB EXTERNAL TANK	-5.000	.000	8.000	.100
(APRR30)	◇	LARCVDHT646/647 IH17 OITB/TB.EXTERNAL TANK.HI/HU	-5.000	.000	8.000	.100

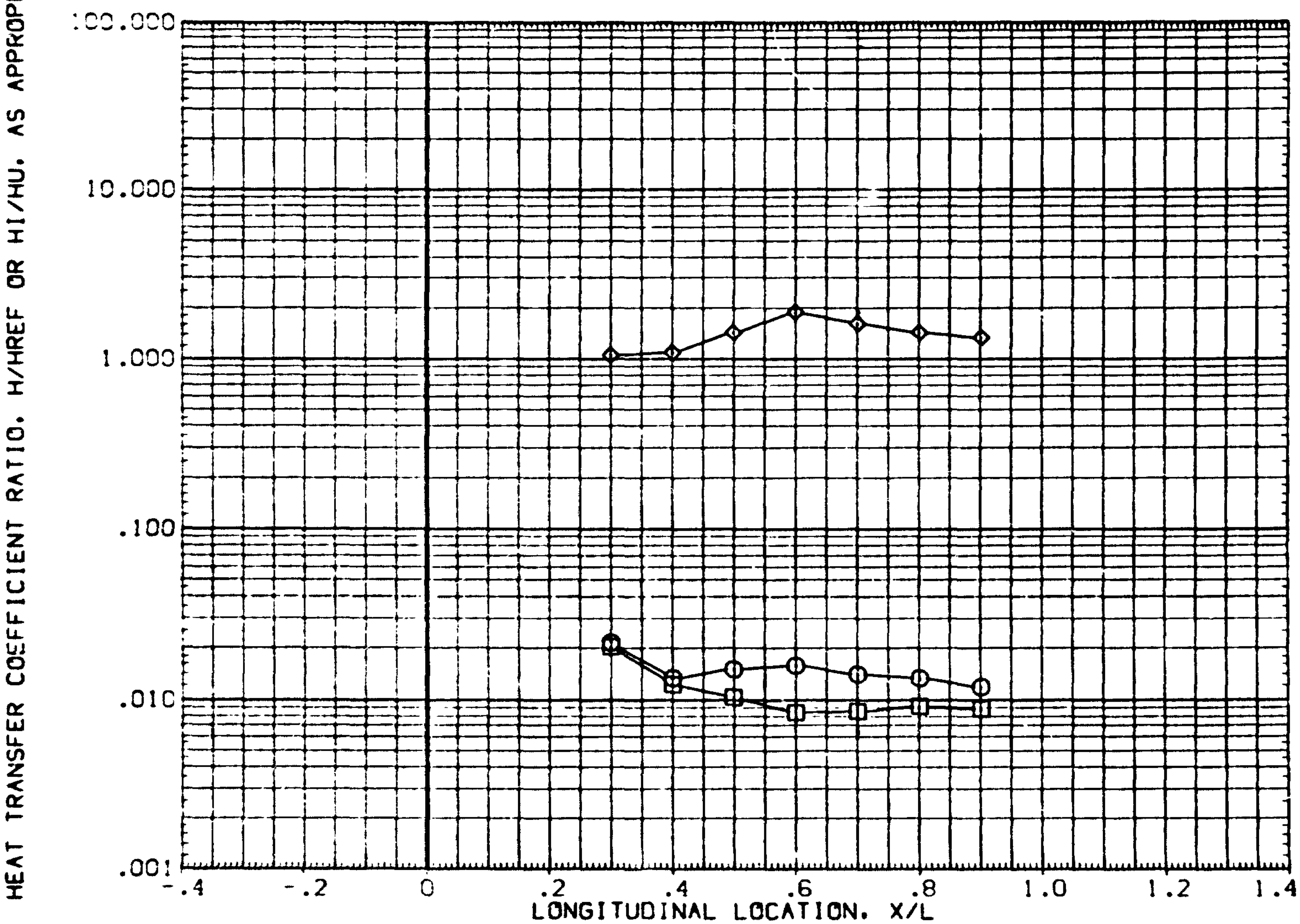


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 PHI = 67.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT06)	○	LARCVDHT646/647 IH17 OI+T8 EXTERNAL TANK	-5.000	.000	8.000	.100
(APRT18)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	-5.000	.000	8.000	.100
(APRR30)	◇	LARCVDHT646/647 IH17 OIT8/T8.EXTERNAL TANK.HI/HU	-5.000	.000	8.000	.100

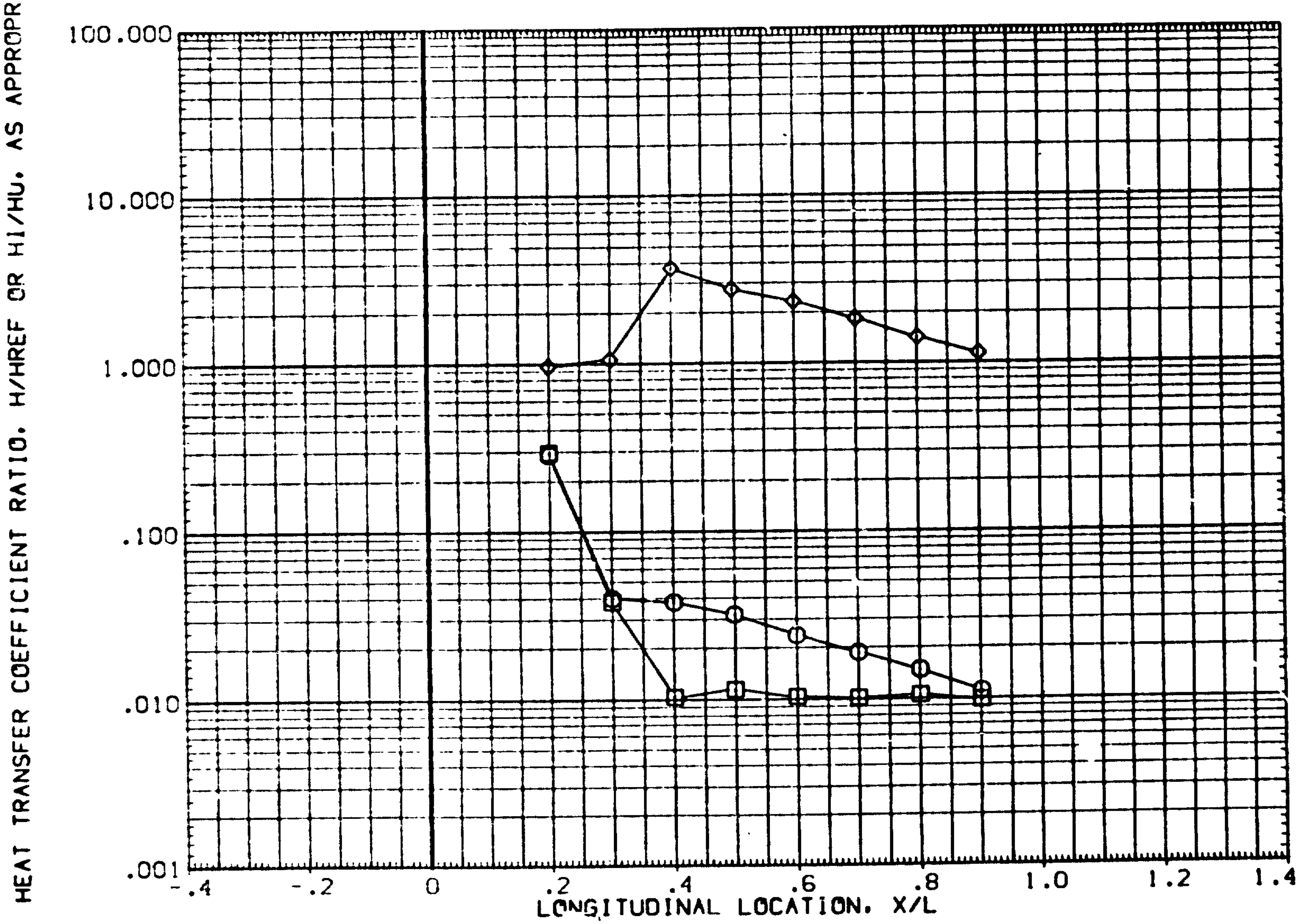


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 PHI = 90.000

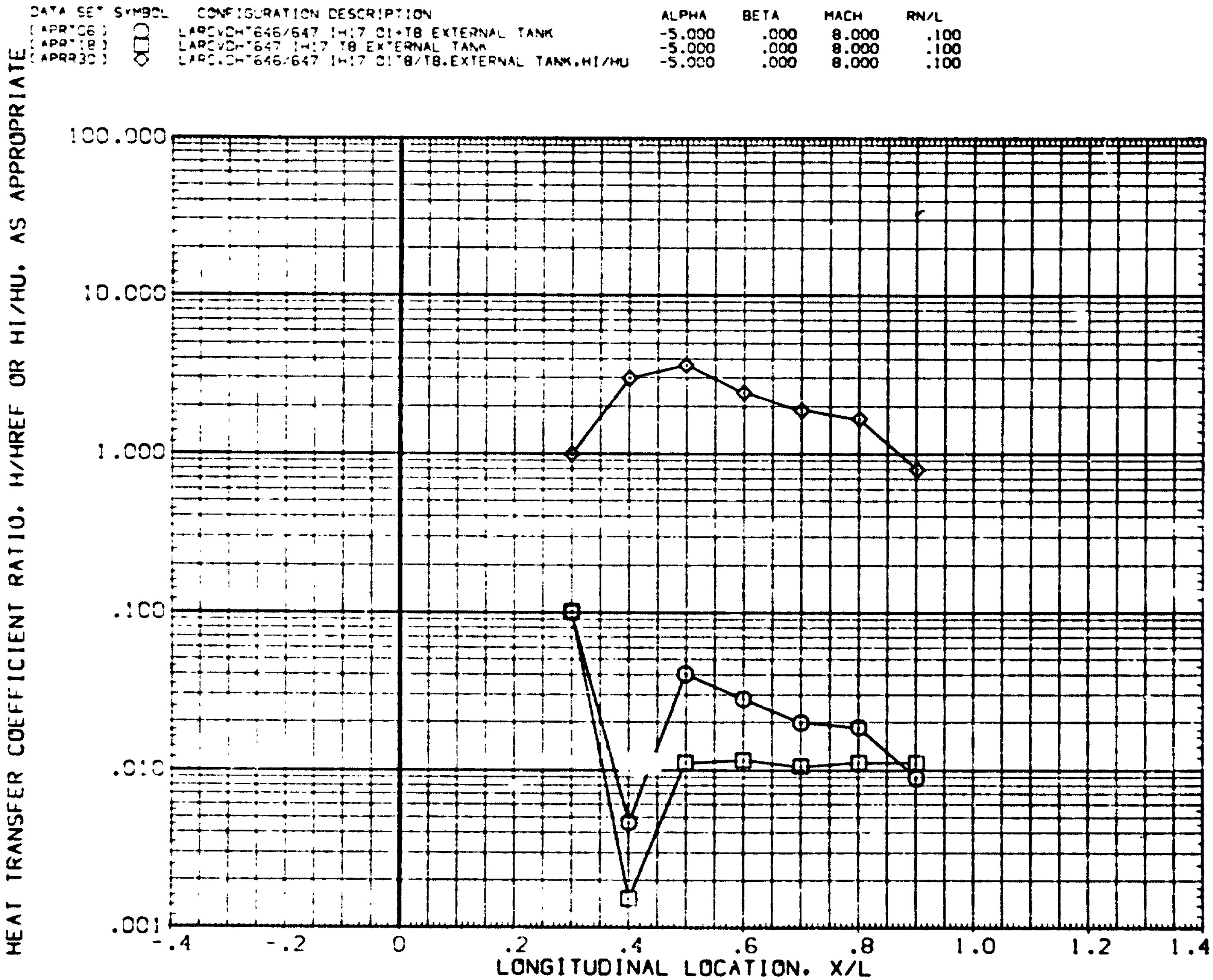


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 PHI = 112.500

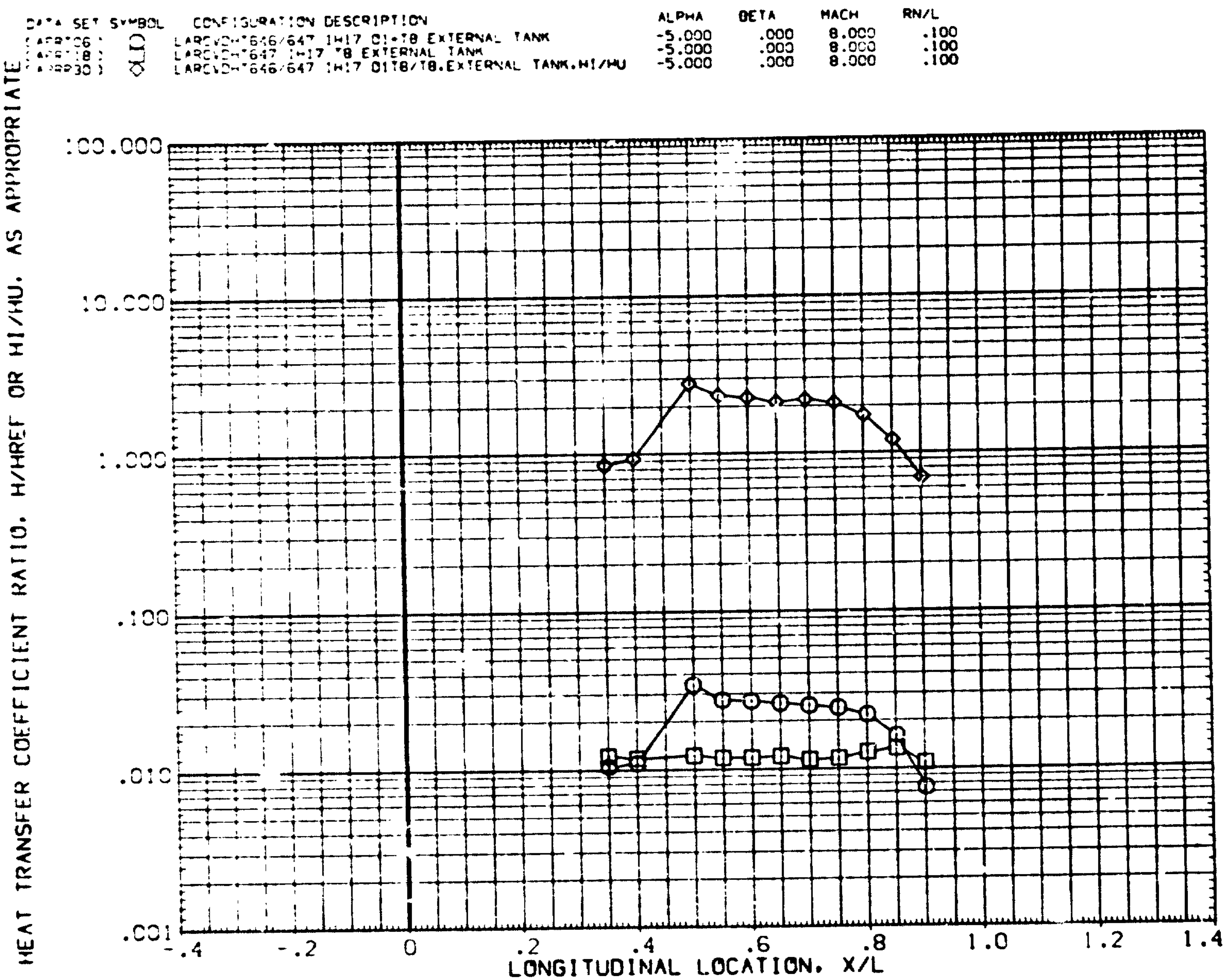


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 PHI = 135.000

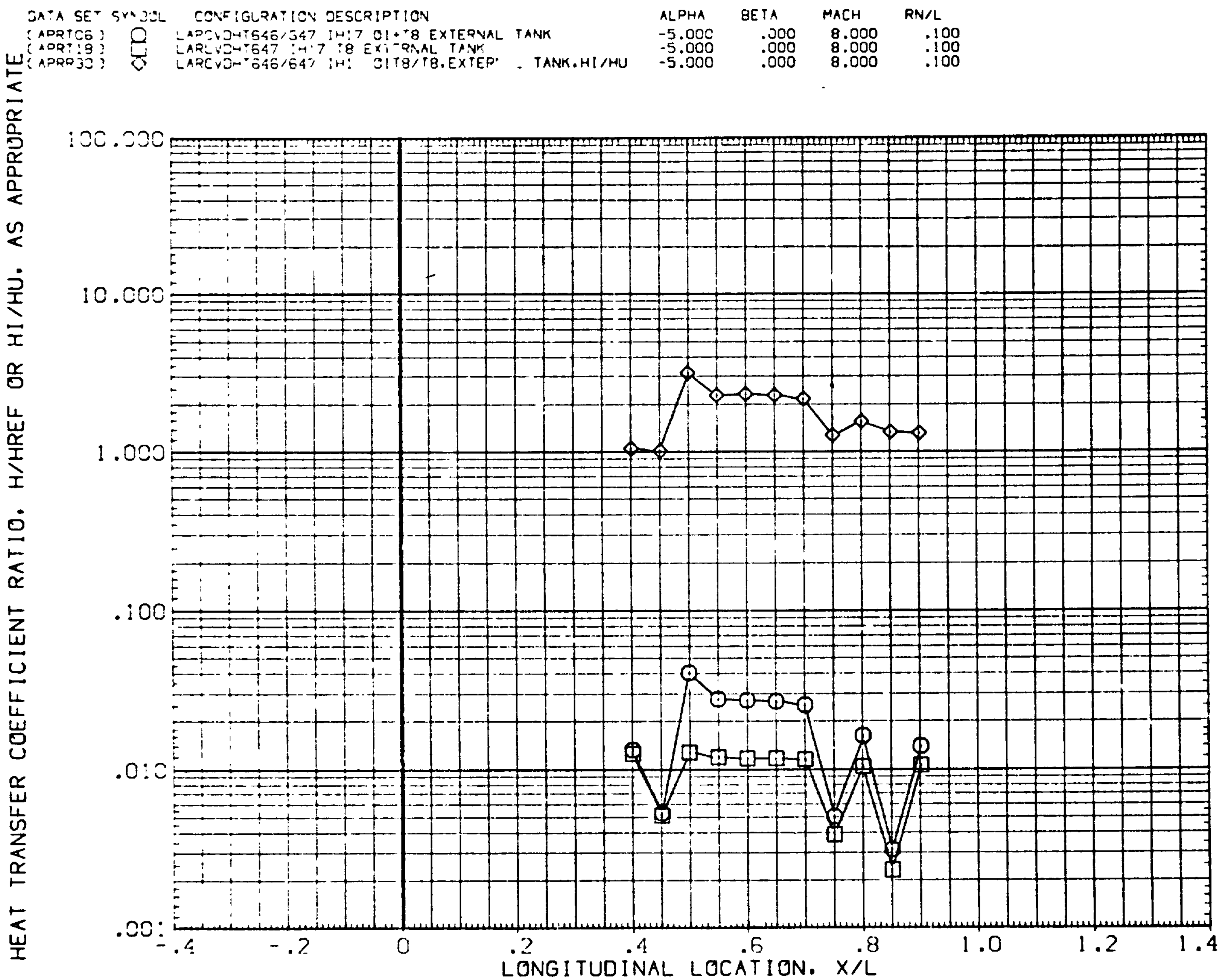


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 PHI = 157.500

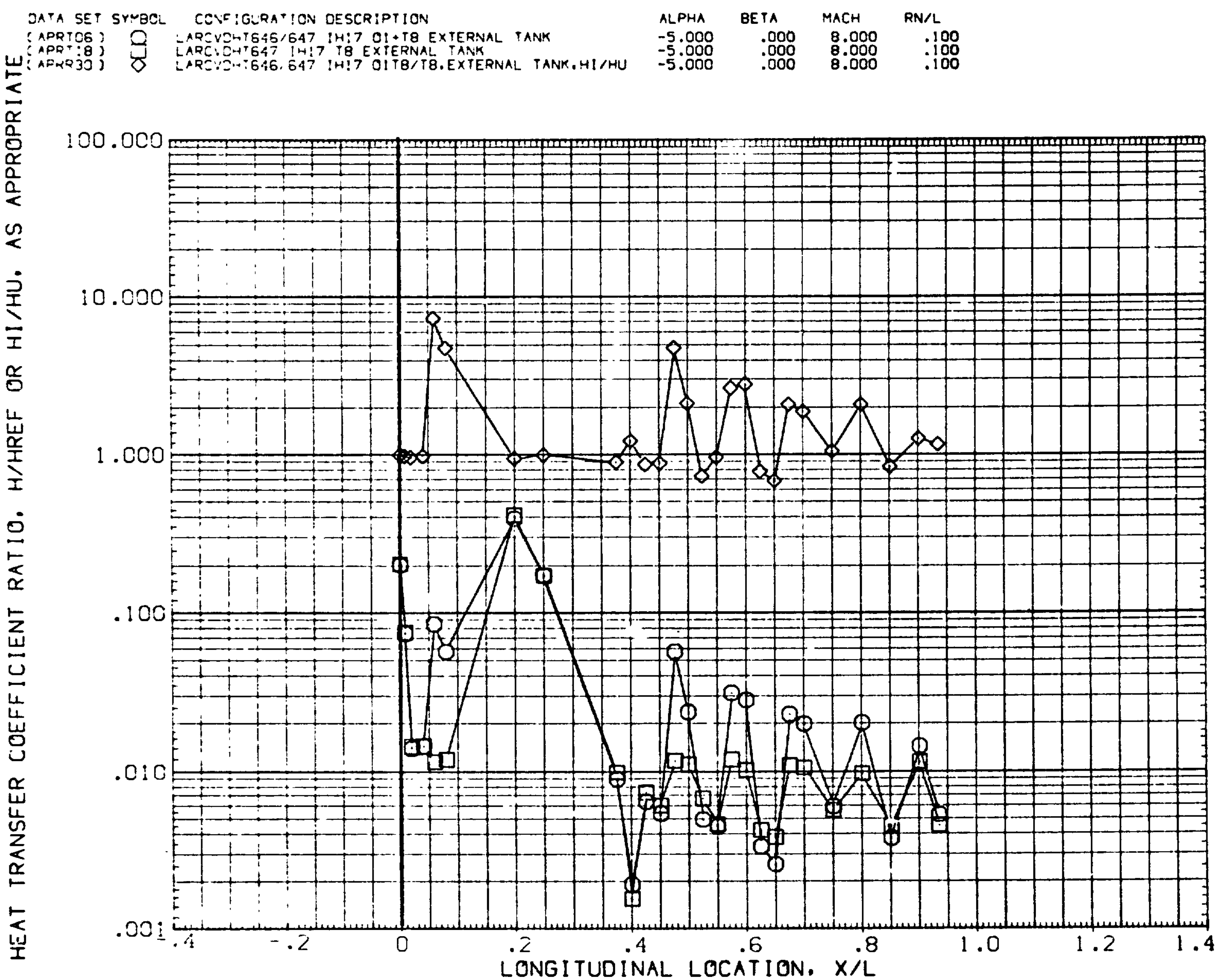


FIG. 33 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=0.1, ALPHA=-5.0)

RN/L = .100 HAW/HT= .900 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT07)	○	LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK	-5.000	.000	8.000	5.000
(APRT19)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	-5.000	.000	8.000	5.000
(APRR31)	◇	LARCVDHT646/647 IH17 O1T8/T8.EXTERNAL TANK.HI/HU	-5.000	.000	8.000	5.000

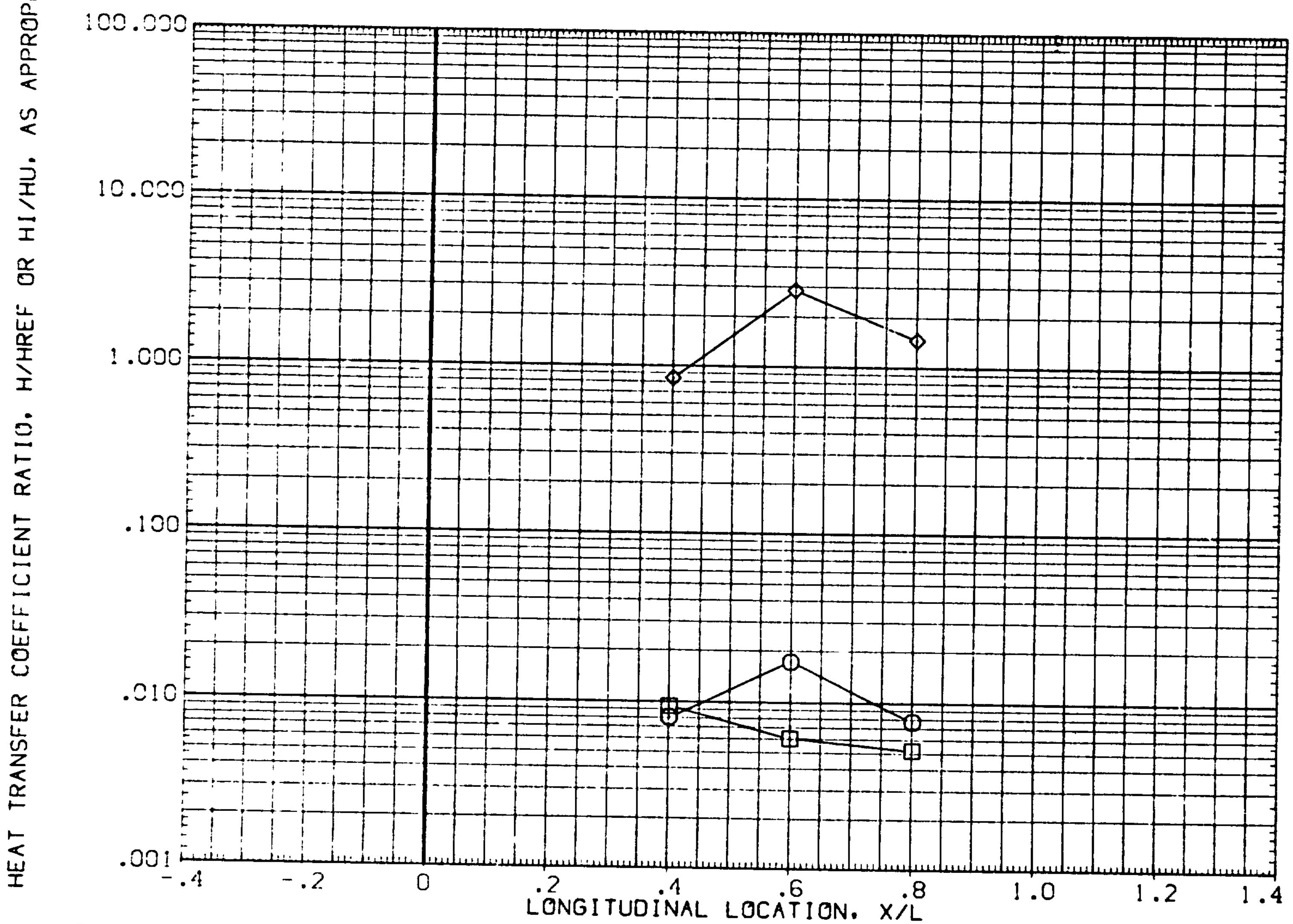


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .850 PHI = .000

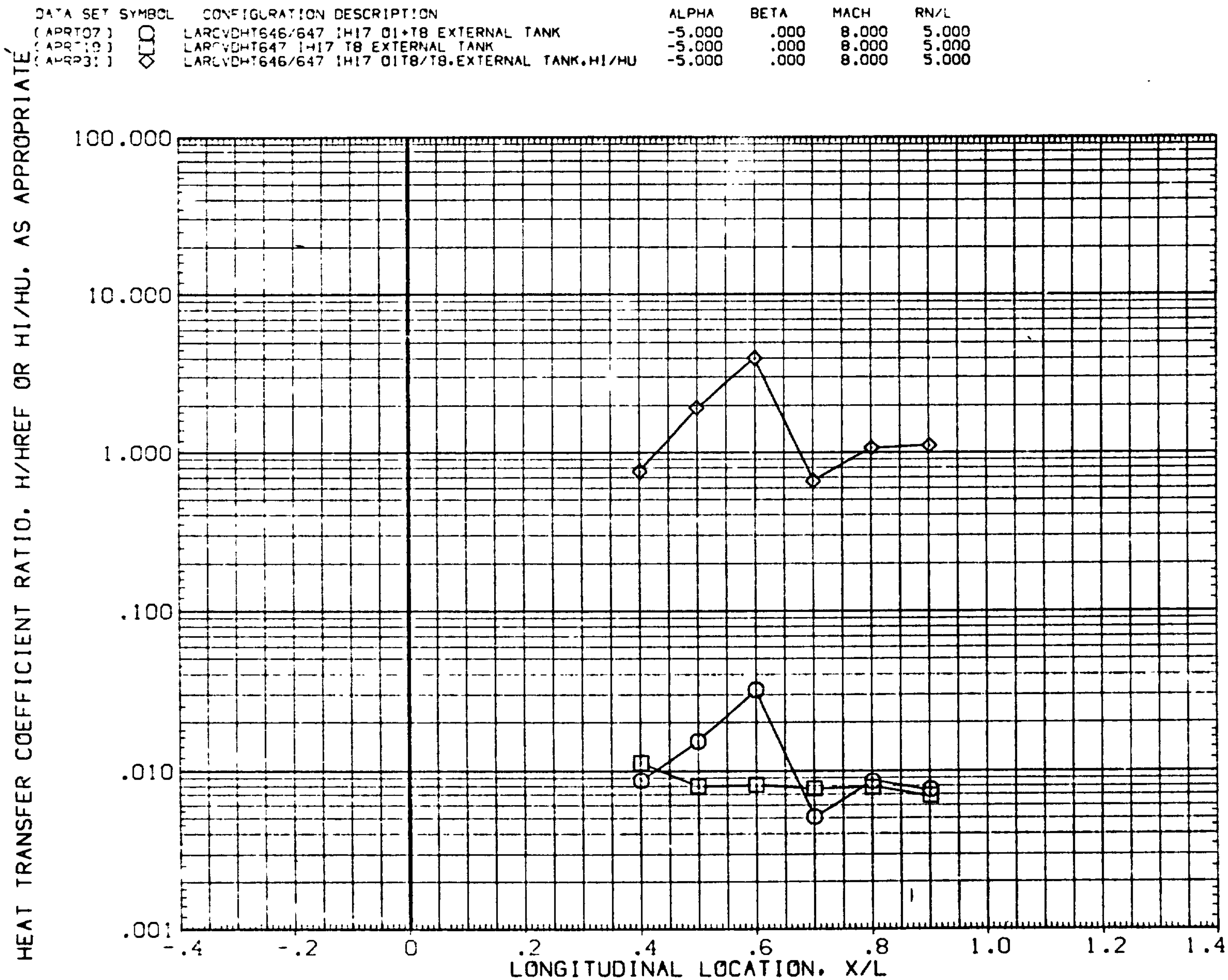


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .850 PHI = 45.000

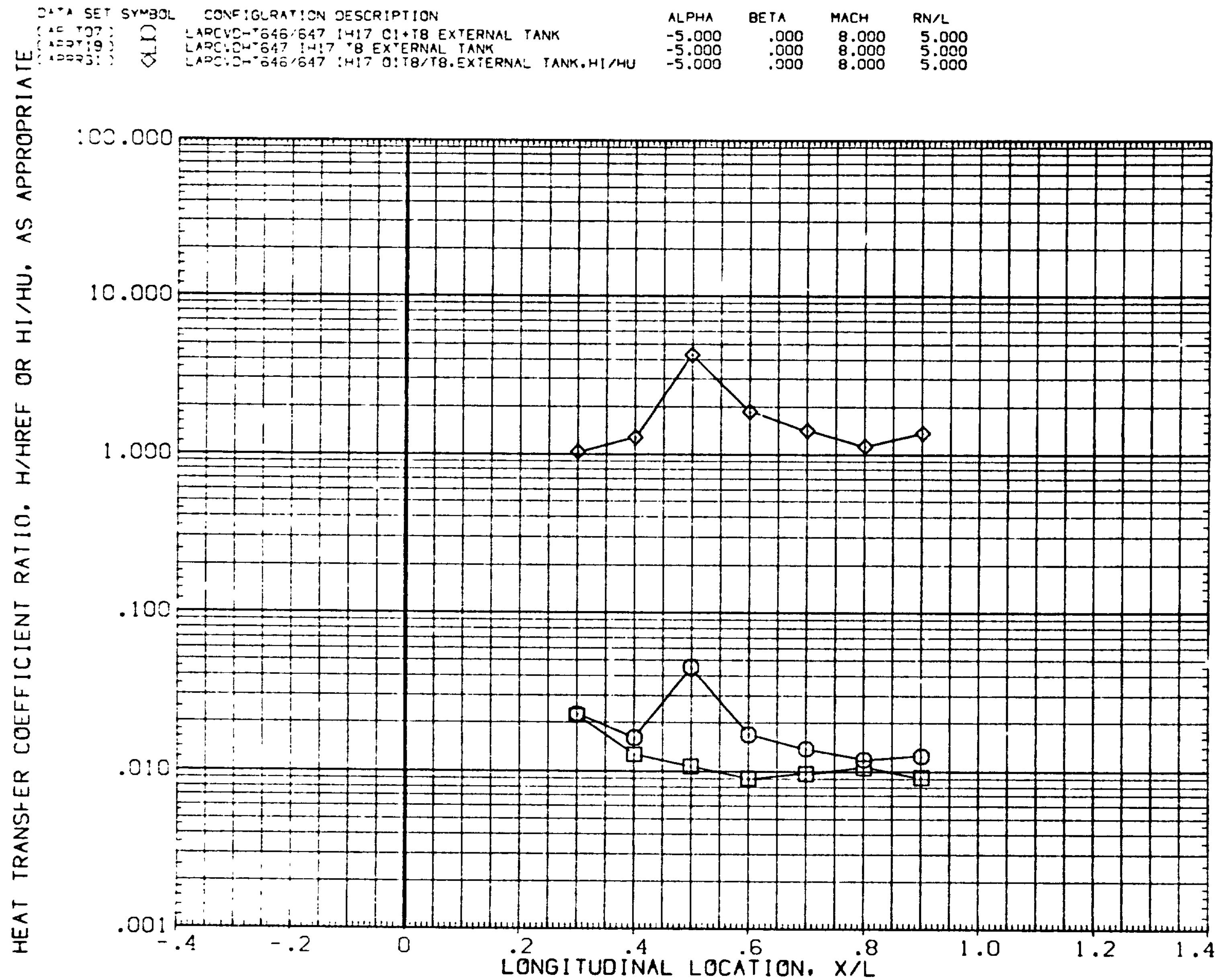


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .850 PHI = 67.500

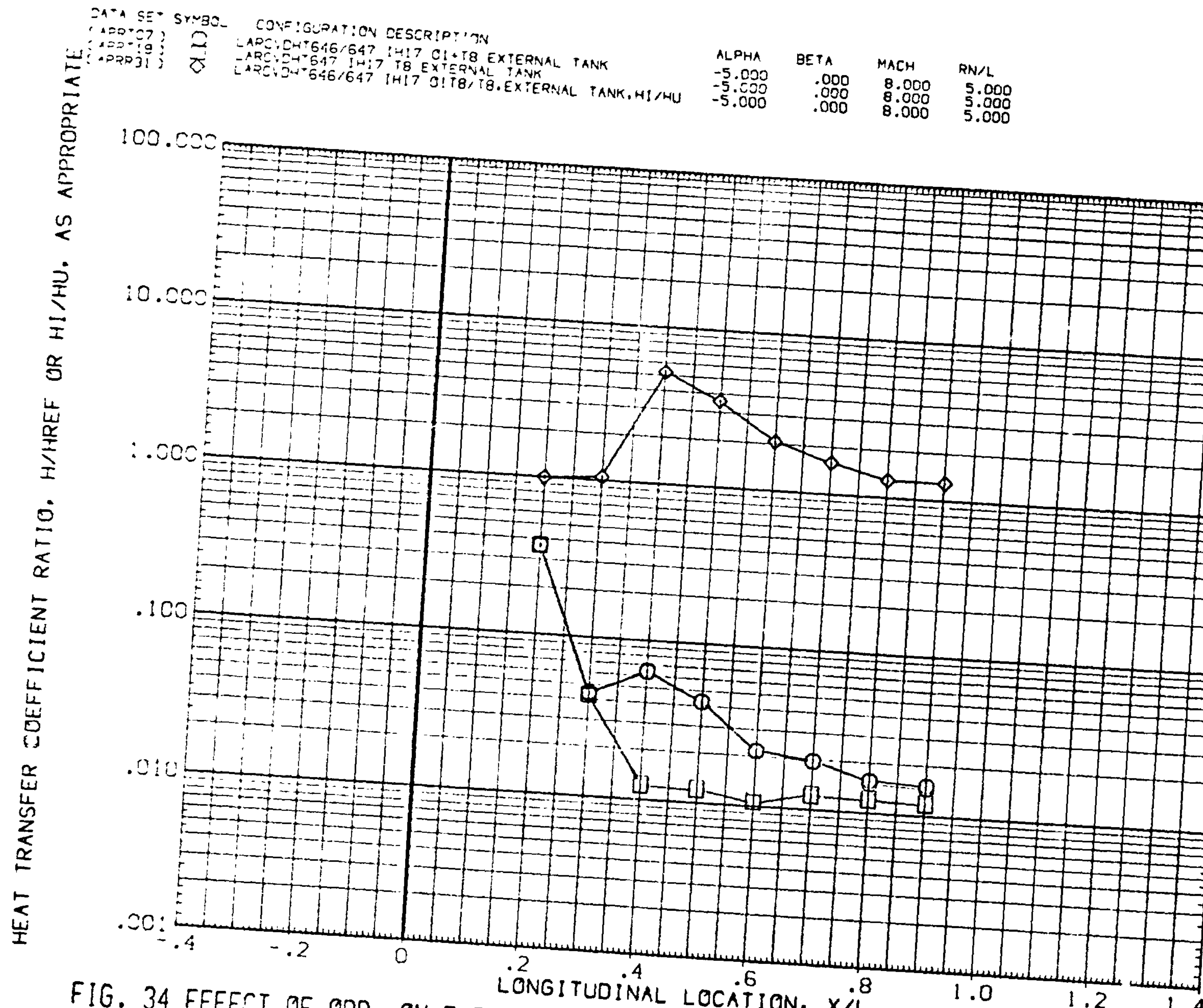


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER

RN/L = 5.000 HAW/HT= .850 PHI = 90.000

(RN/L=5.0, ALPHA=-5.0)

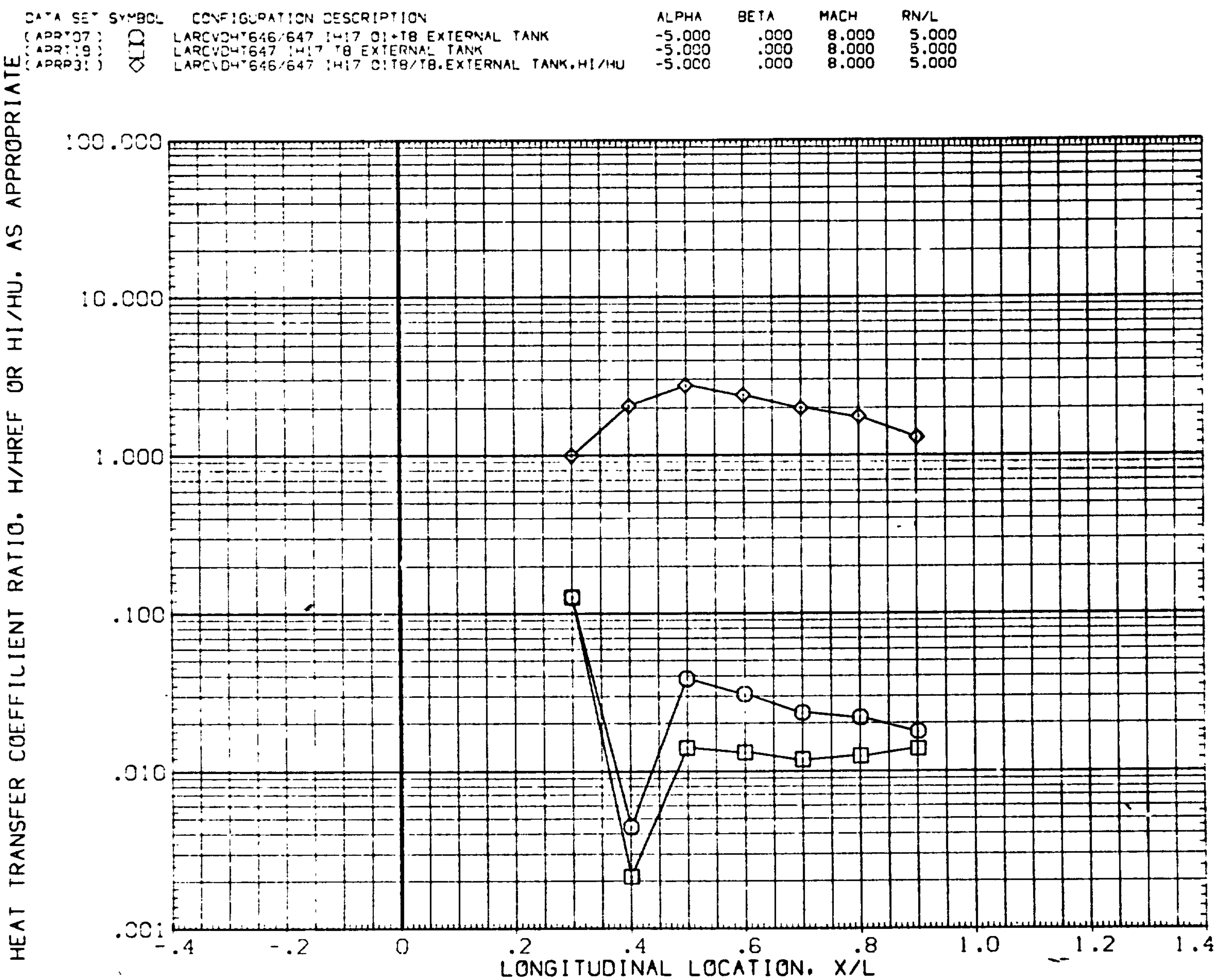


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .850 PHI = 112.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT07)	○	LARCVDHT646/647 IH17 OI+T8 EXTERNAL TANK	-5.000	.000	8.000	5.000
(APRT19)	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	-5.000	.000	8.000	5.000
(APRR31)	◇	LARCVDHT646/647 IH17 OIT8/T8.EXTERNAL TANK.HI/HU	-5.000	.000	8.000	5.000

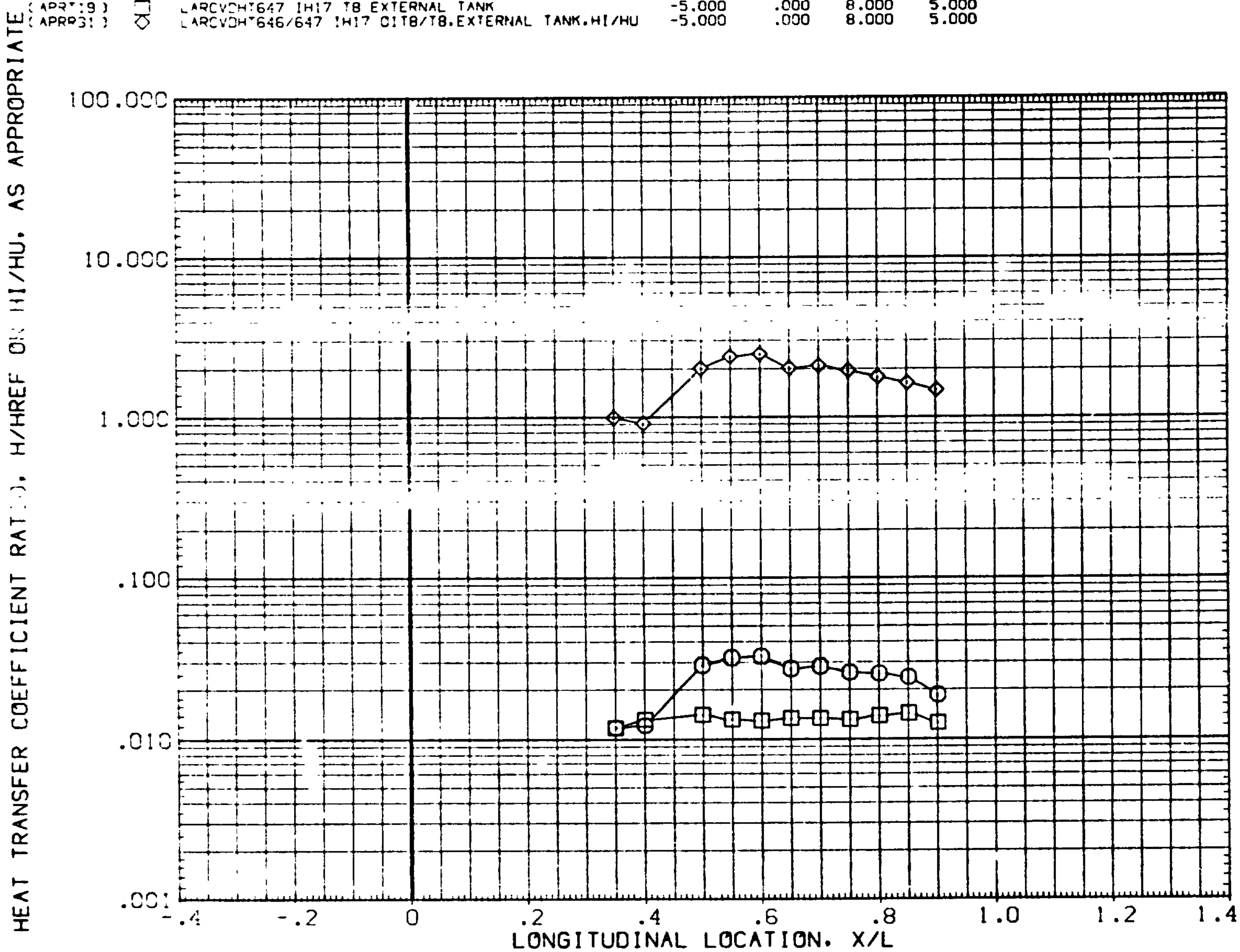


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .850 PHI = 135.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APR707)	○	LARC/OHT646/647 IH17 C1+T8 EXTERNAL TANK	-5.000	.000	8.000	5.000
(APR719)	□	LARC/OHT647 IH17 T8 EXTERNAL TANK	-5.000	.000	8.000	5.000
(APRR31)	◇	LARC/OHT646 647 IH17 C1T8/T8,EXTERNAL TANK,HI/HU	-5.000	.000	8.000	5.000

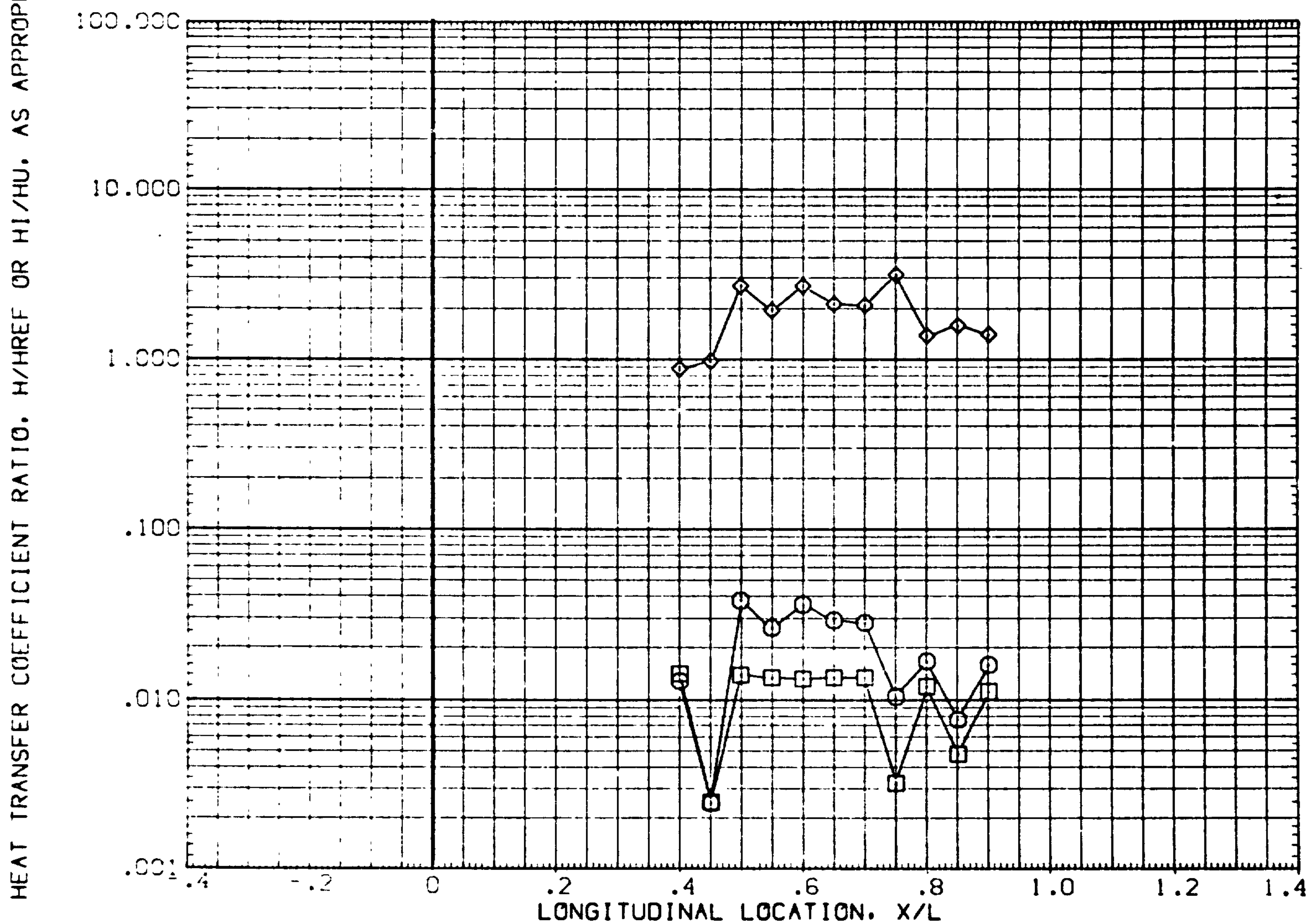


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .850 PHI = 157.500

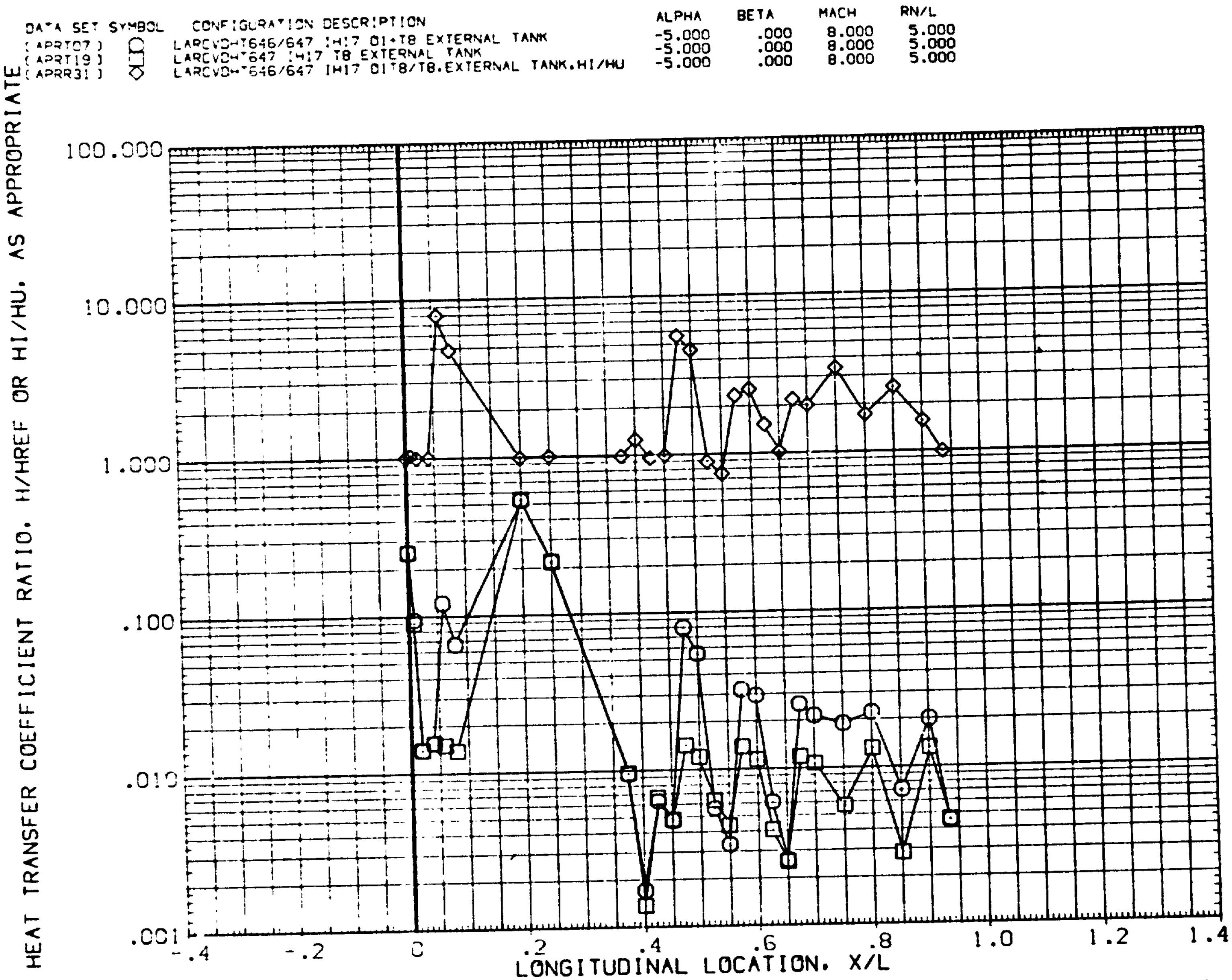


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .850 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
[illegible]	○	LARCVDHT646/647 IH17 C1+T8 EXTERNAL TANK	-5.000	.000	8.000	5.000
[illegible]	□	LARCVDHT647 IH17 T8 EXTERNAL TANK	-5.000	.000	8.000	5.000
[illegible]	◇	LARCVDHT646/647 IH17 C1T8/T8.EXTERNAL TANK.HI/HU	-5.000	.000	8.000	5.000

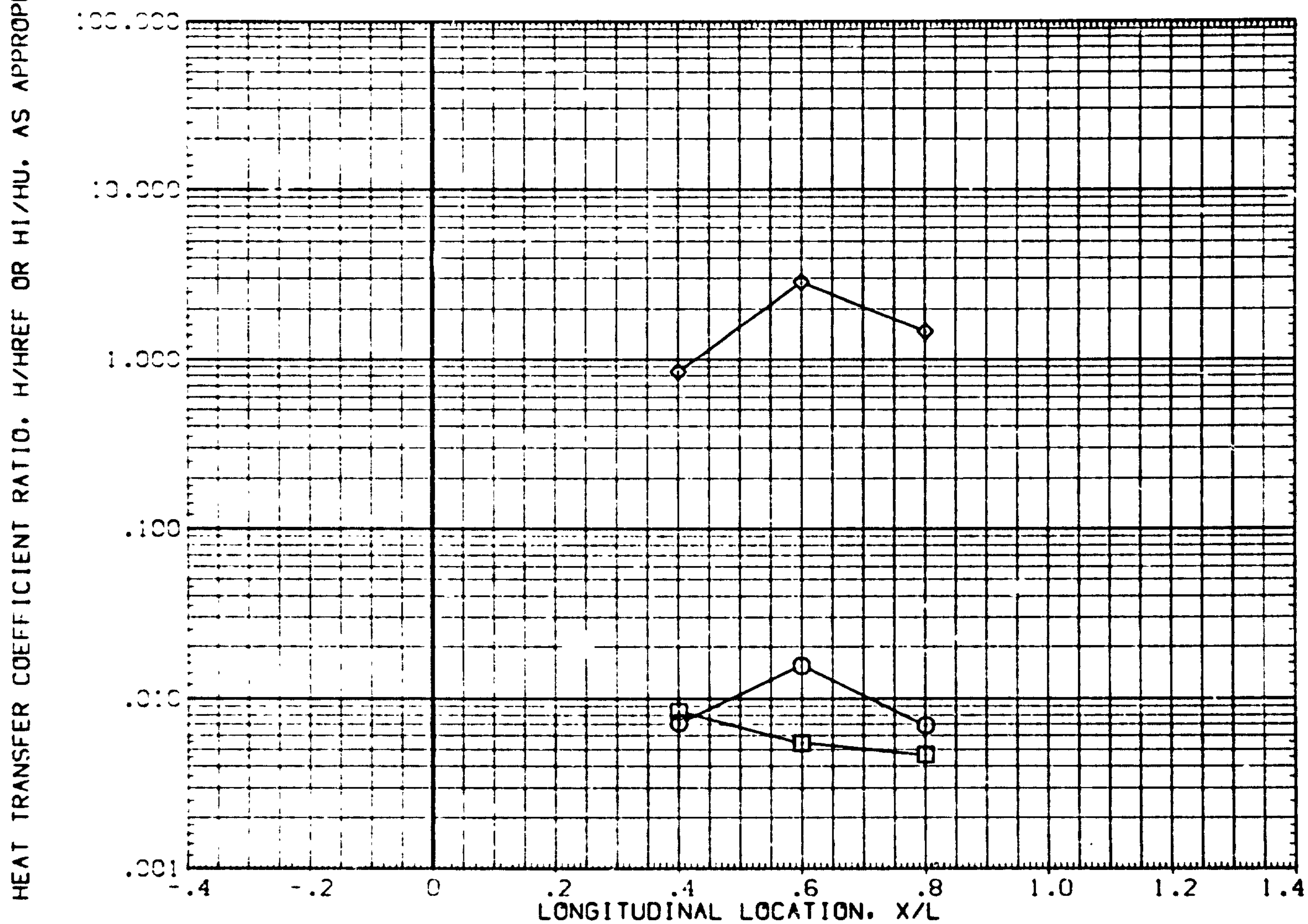


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .900 PHI = .000

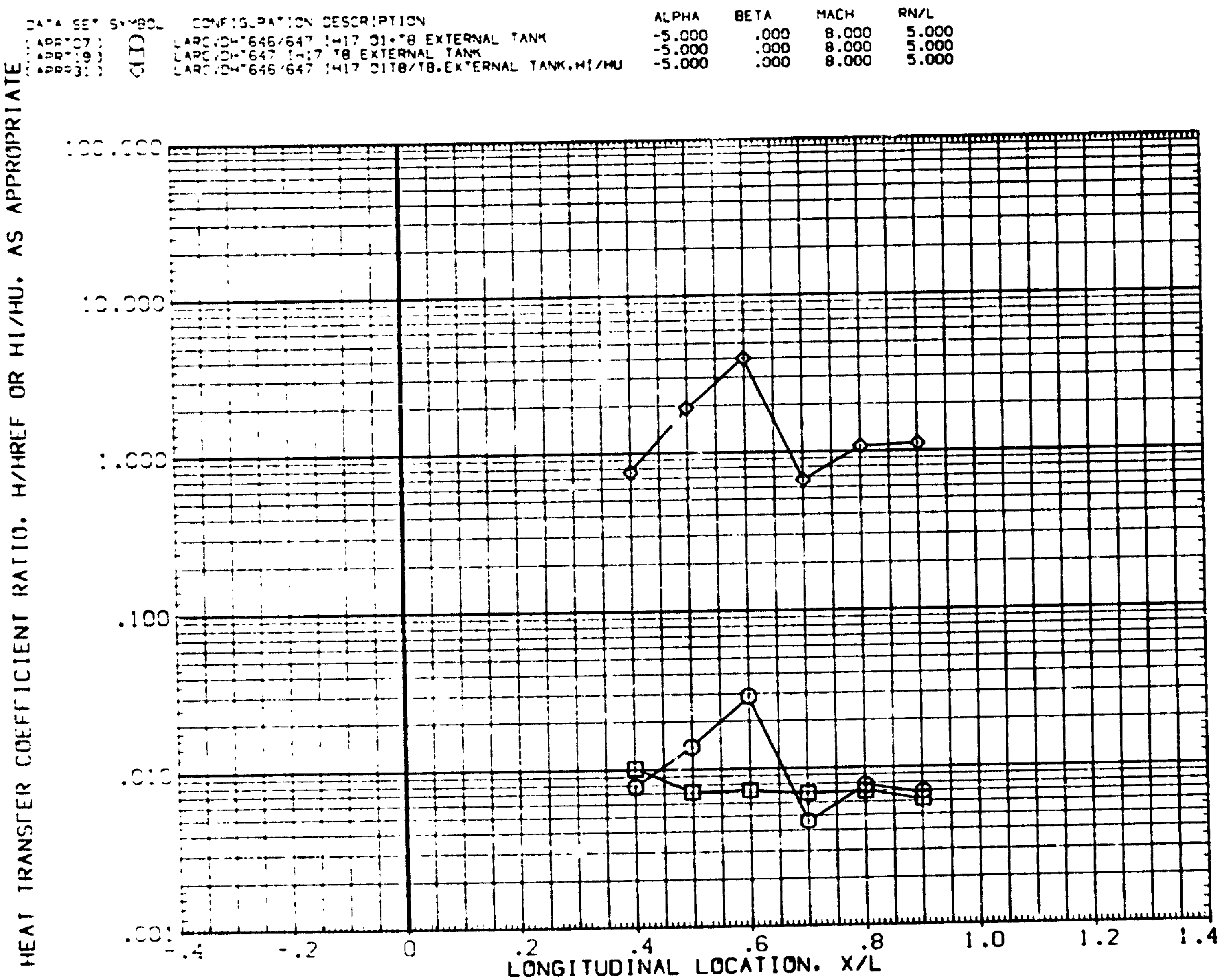


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAX/HT= .900 PHI = 45.000

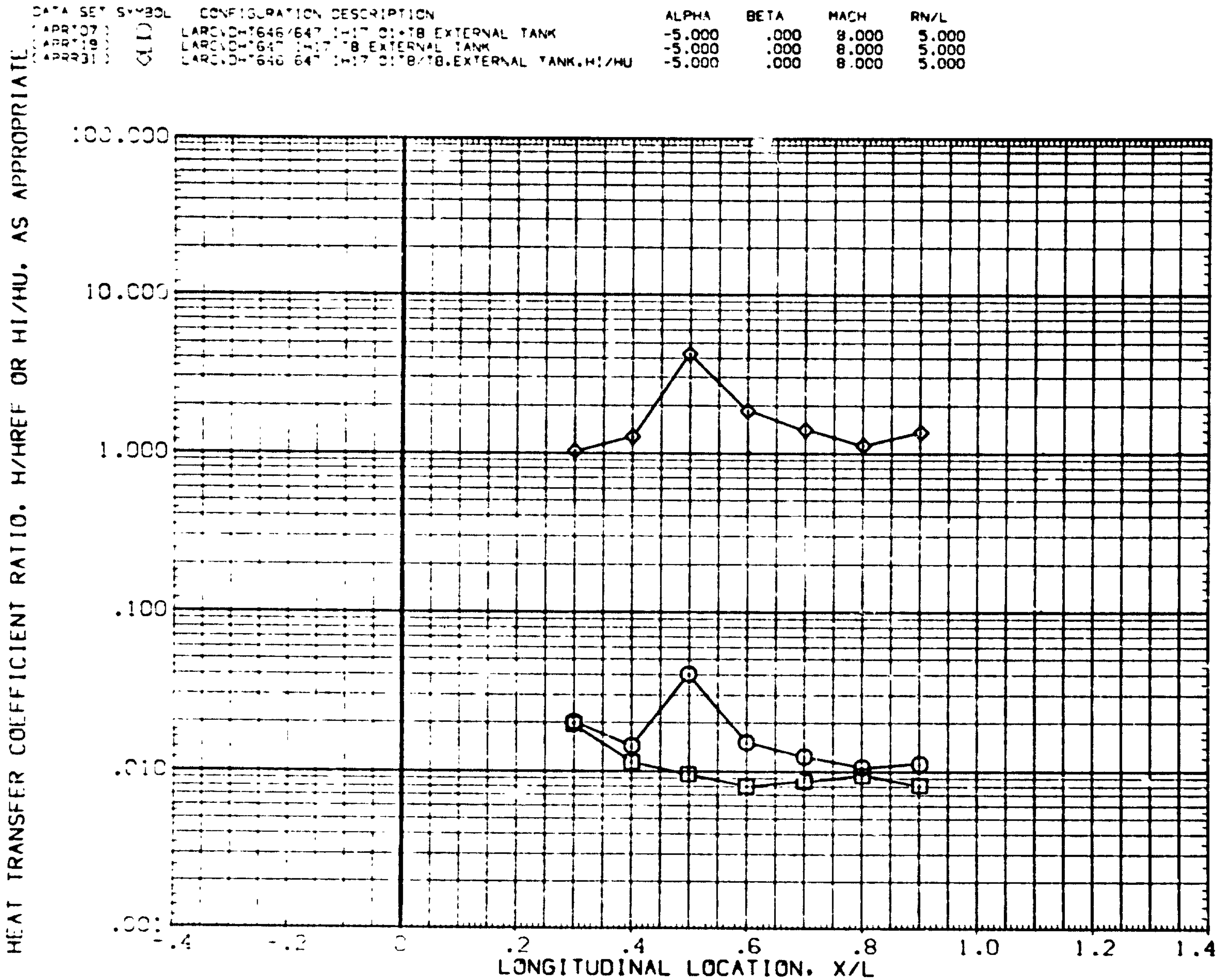


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0 ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .900 PHI = 67.500

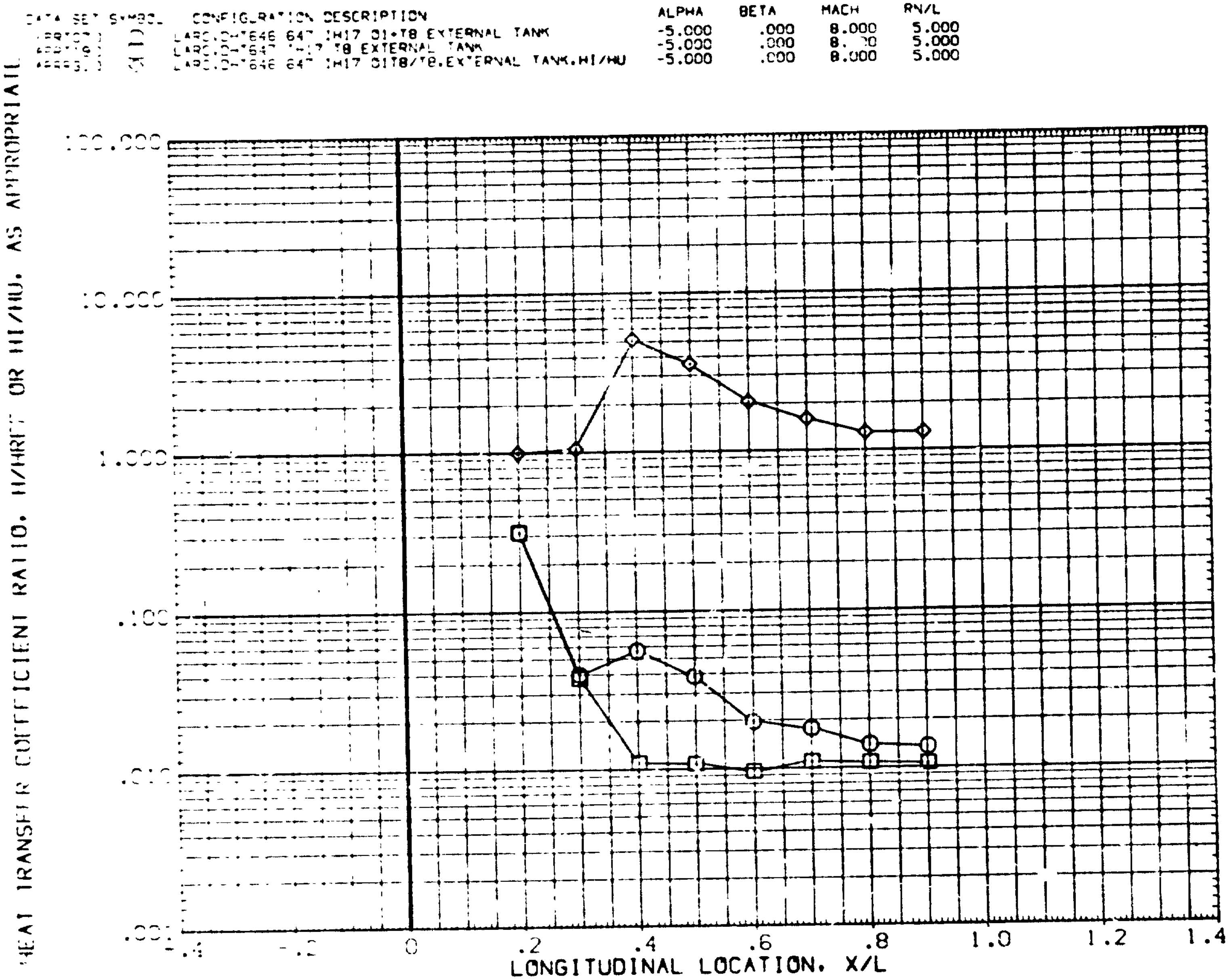


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

.900 PHI = 90.000

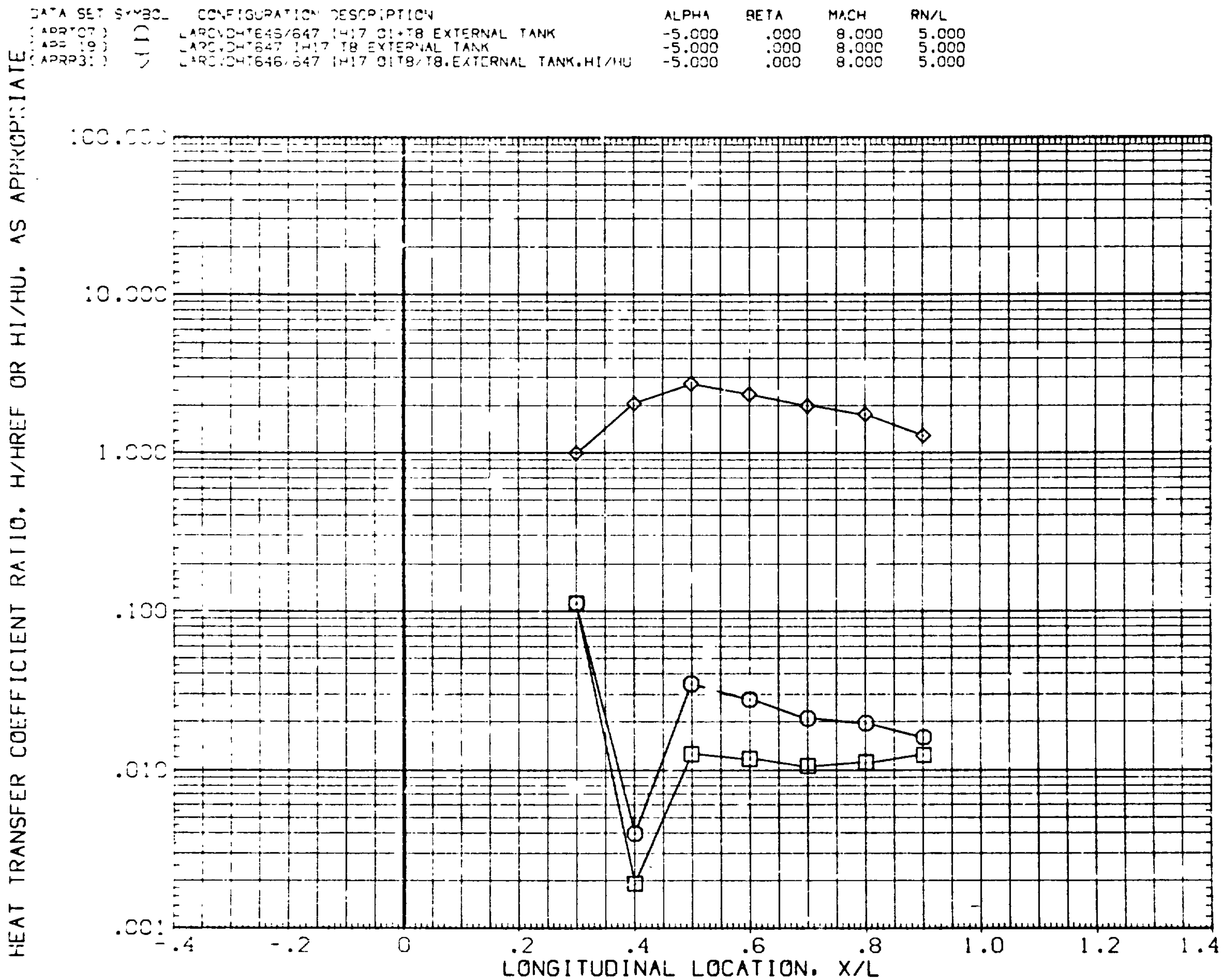


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT = .900 PHI = 112.500

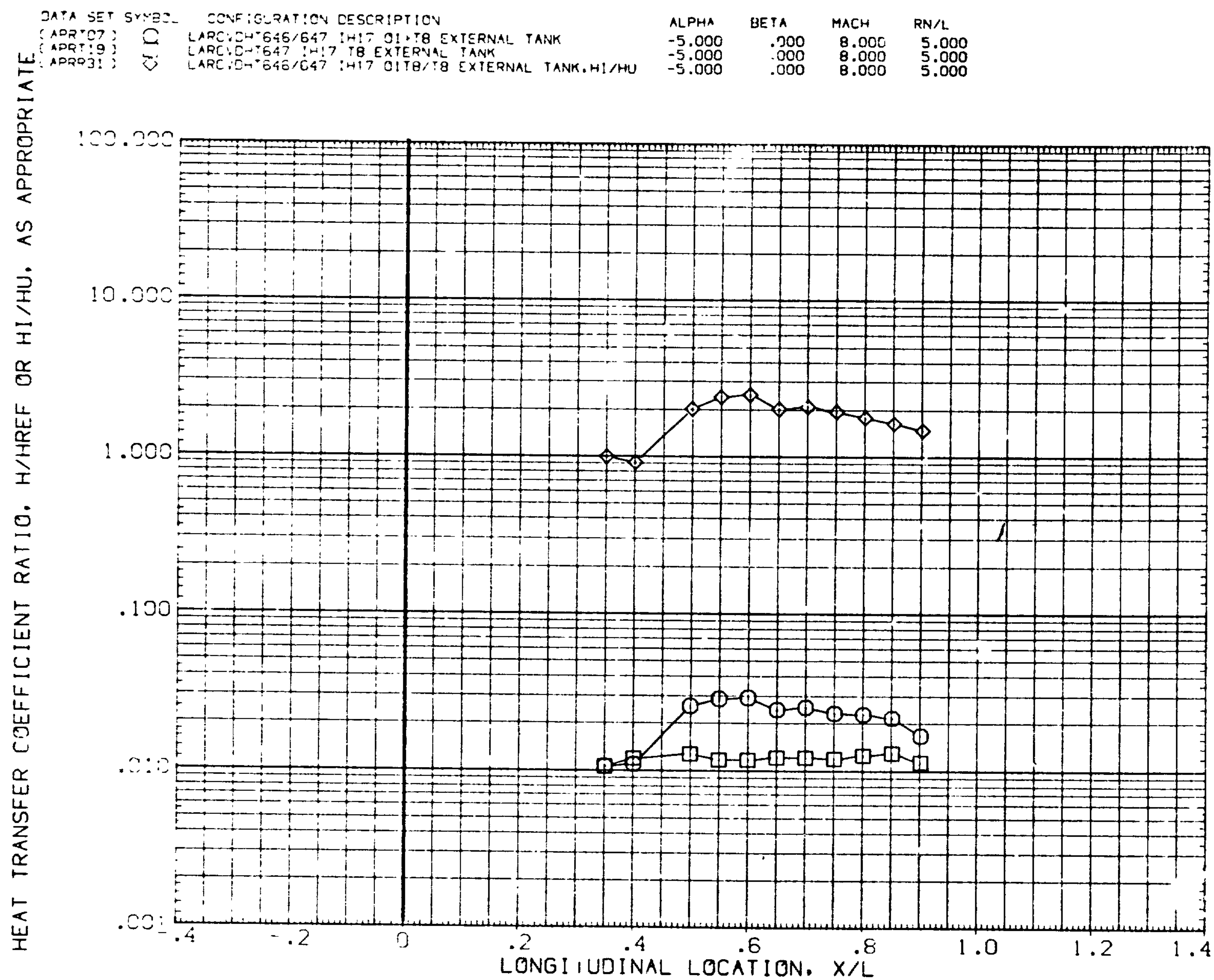


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .000 PHI = 135.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT07)	○	LARCVD-T643 647 IH17 OI+T8 EXTERNAL TANK	-5.000	.000	8.000	5.000
(APRT19)	□	LARC.D-T647 I-17 T8 EXTERNAL TANK	-5.000	.000	8.000	5.000
(APRR31)	◇	LARC.D-T646 647 IH17 OIT8/T8.EXTERNAL TANK.HI/HU	-5.000	.000	8.000	5.000

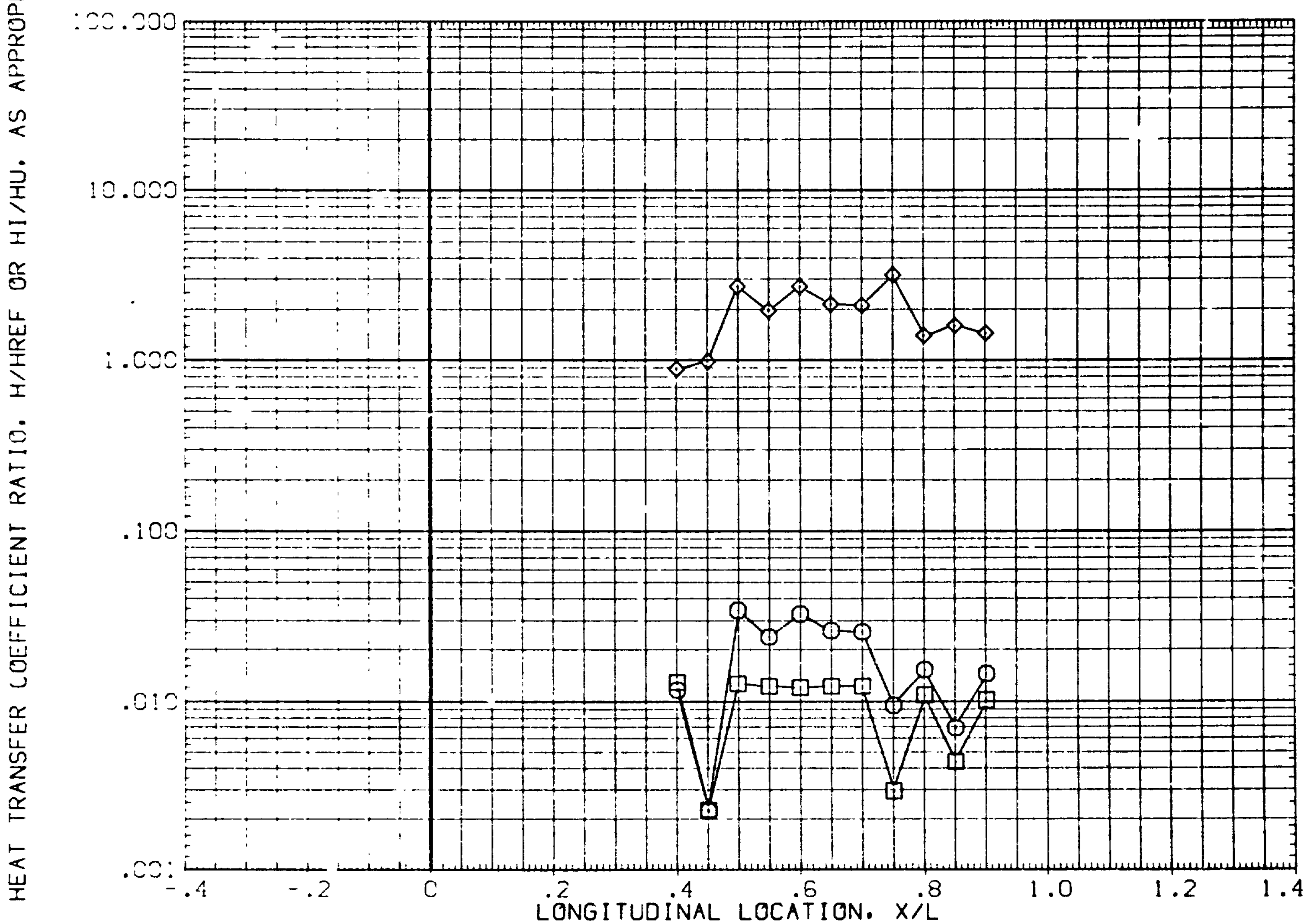


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HT/HT= .900 PHI = 157.500

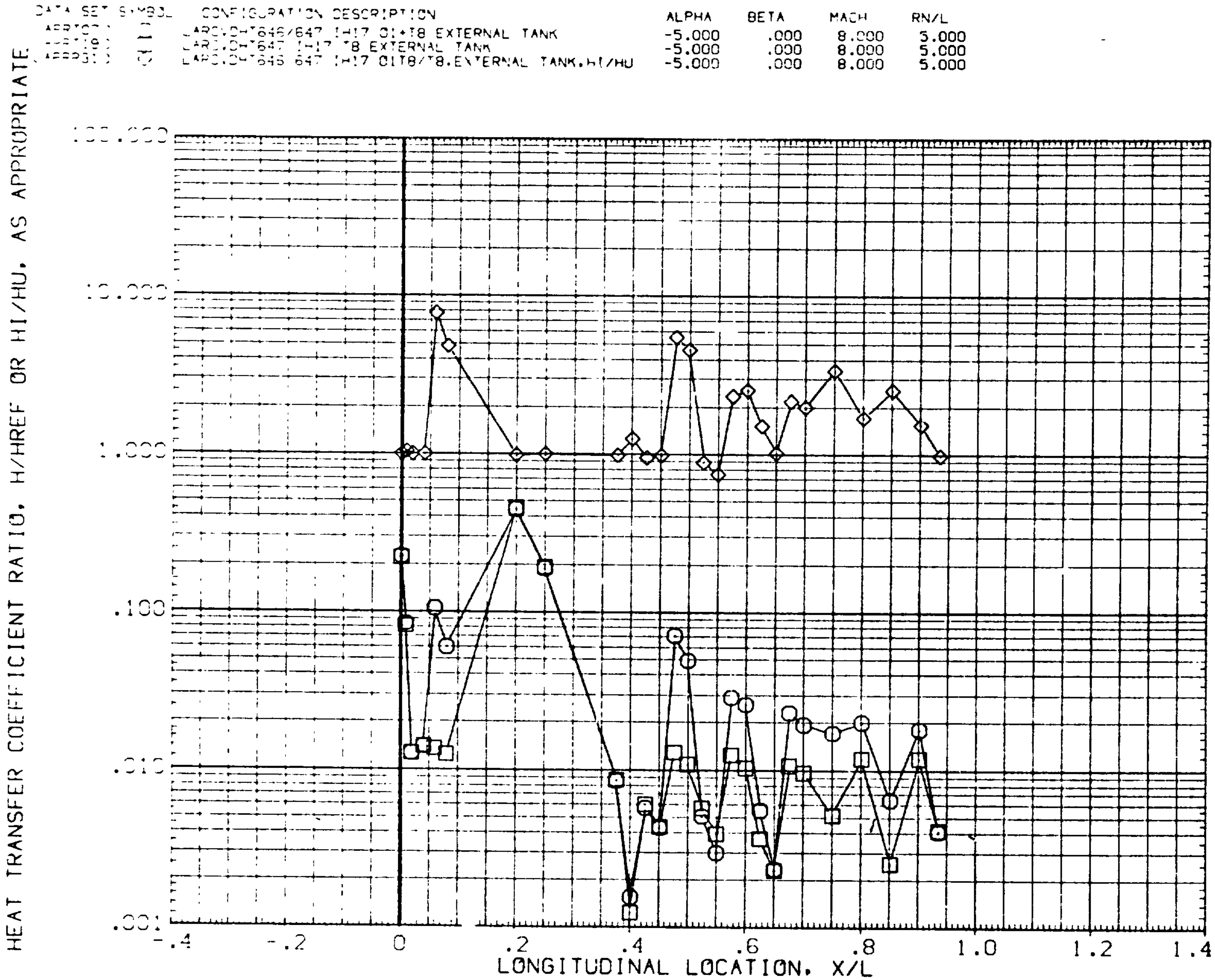


FIG. 34 EFFECT OF ORB. ON E.T. HEAT TRANSFER (RN/L=5.0, ALPHA=-5.0)

RN/L = 5.000 HAW/HT= .900 PHI = 180.000

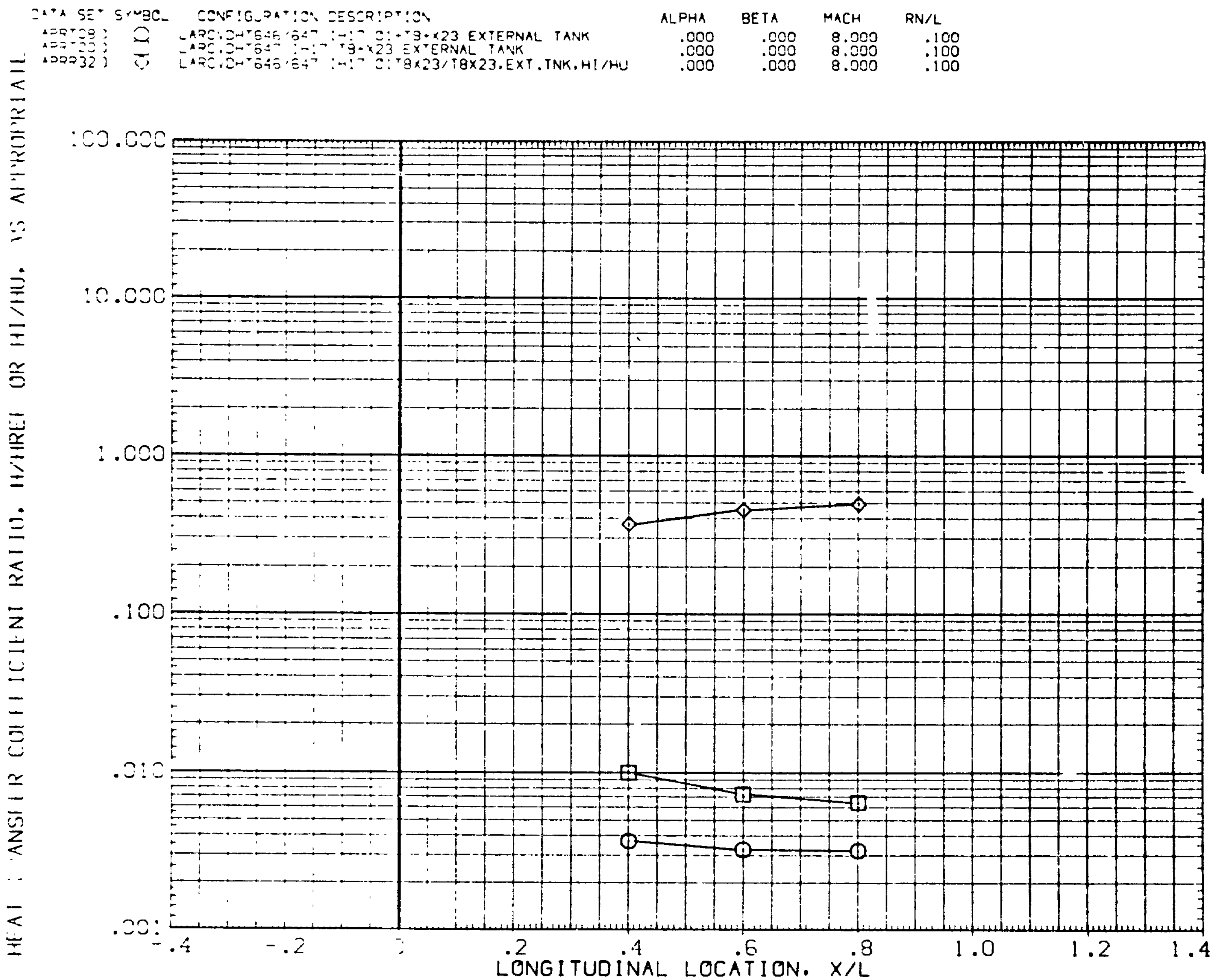


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 PHI = .000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APR708)	○	LARCVDHT643/647 IH17 C1+T8+X23 EXTERNAL TANK	.000	.000	8.000	.100
(APR720)	□	LARC,DHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	.100
(APR932)	◇	LARC,DHT646/647 IH17 C1T8+23/T8X23,EXT,TNK,HI/HU	.000	.000	8.000	.100

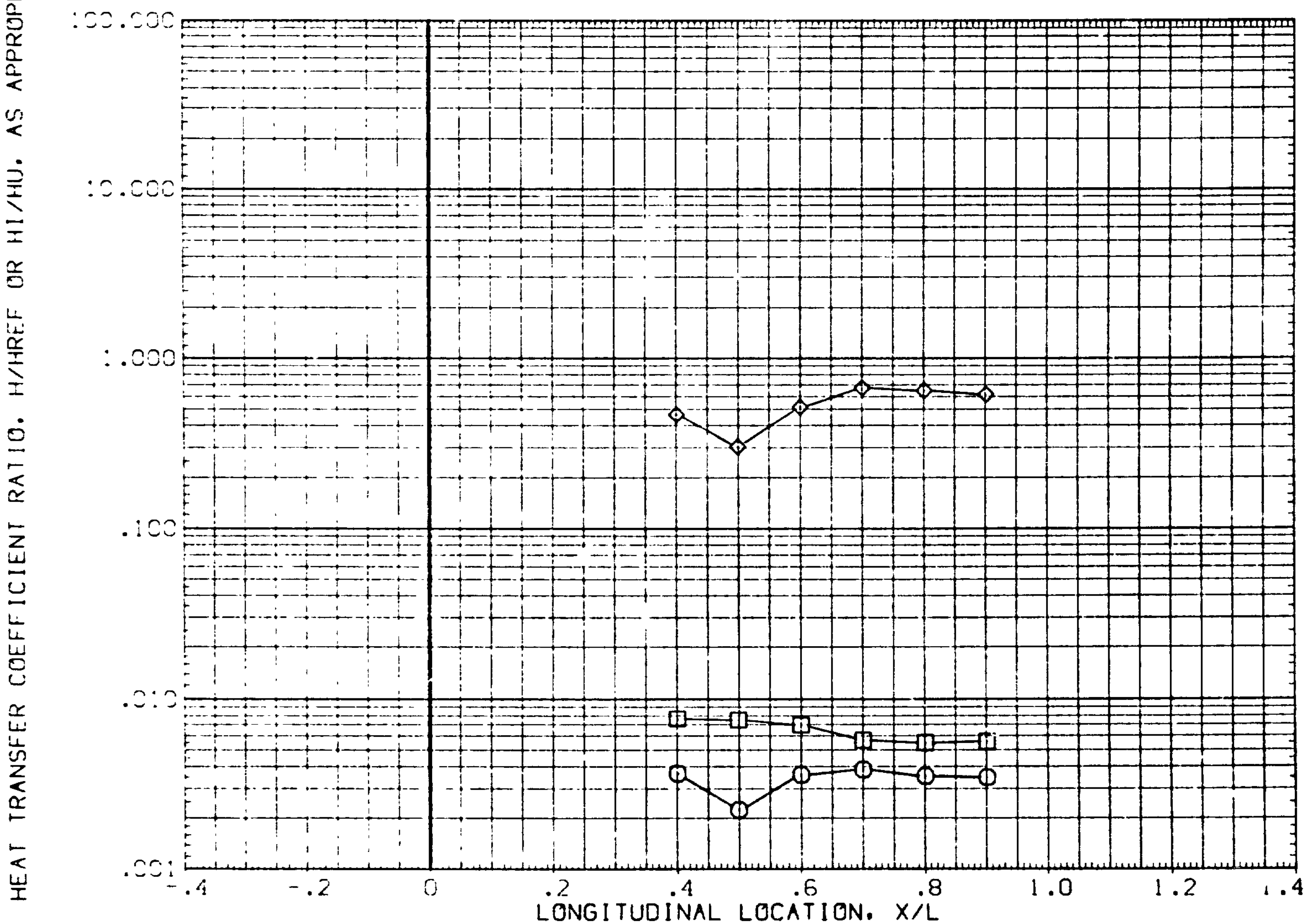


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 PHI = 45.000

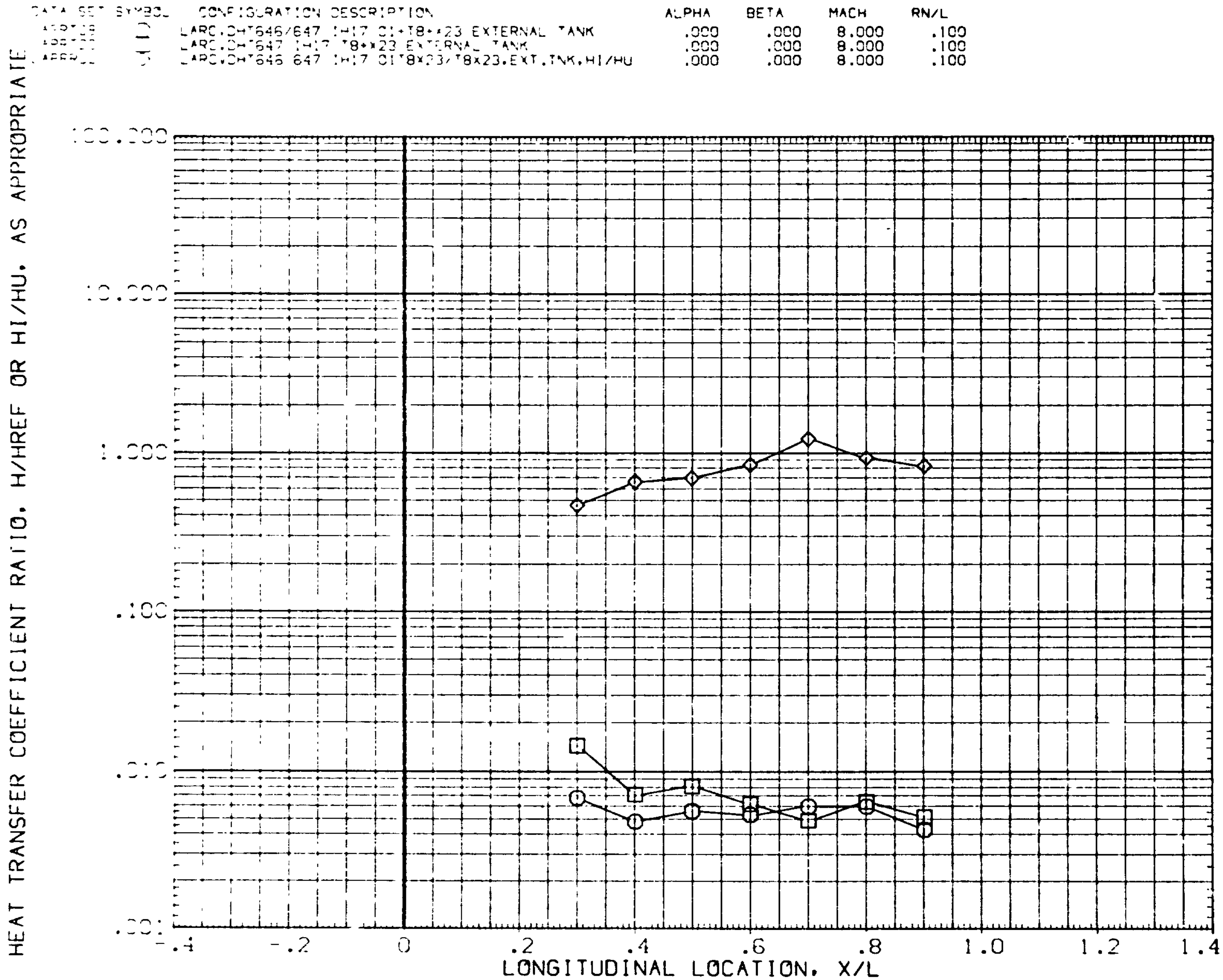


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 .850 PHI = 67.500

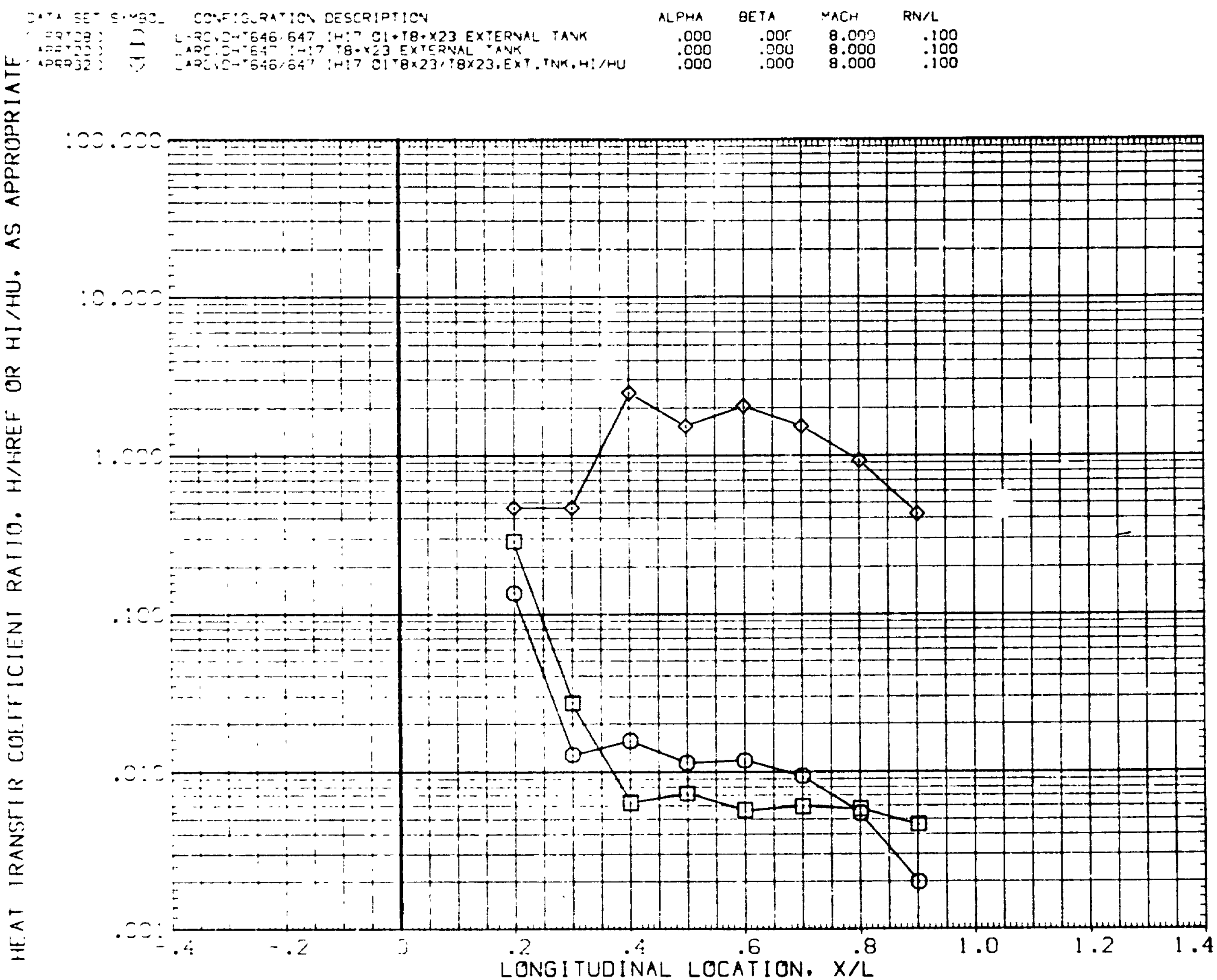


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT = .850 PHI = 90.000

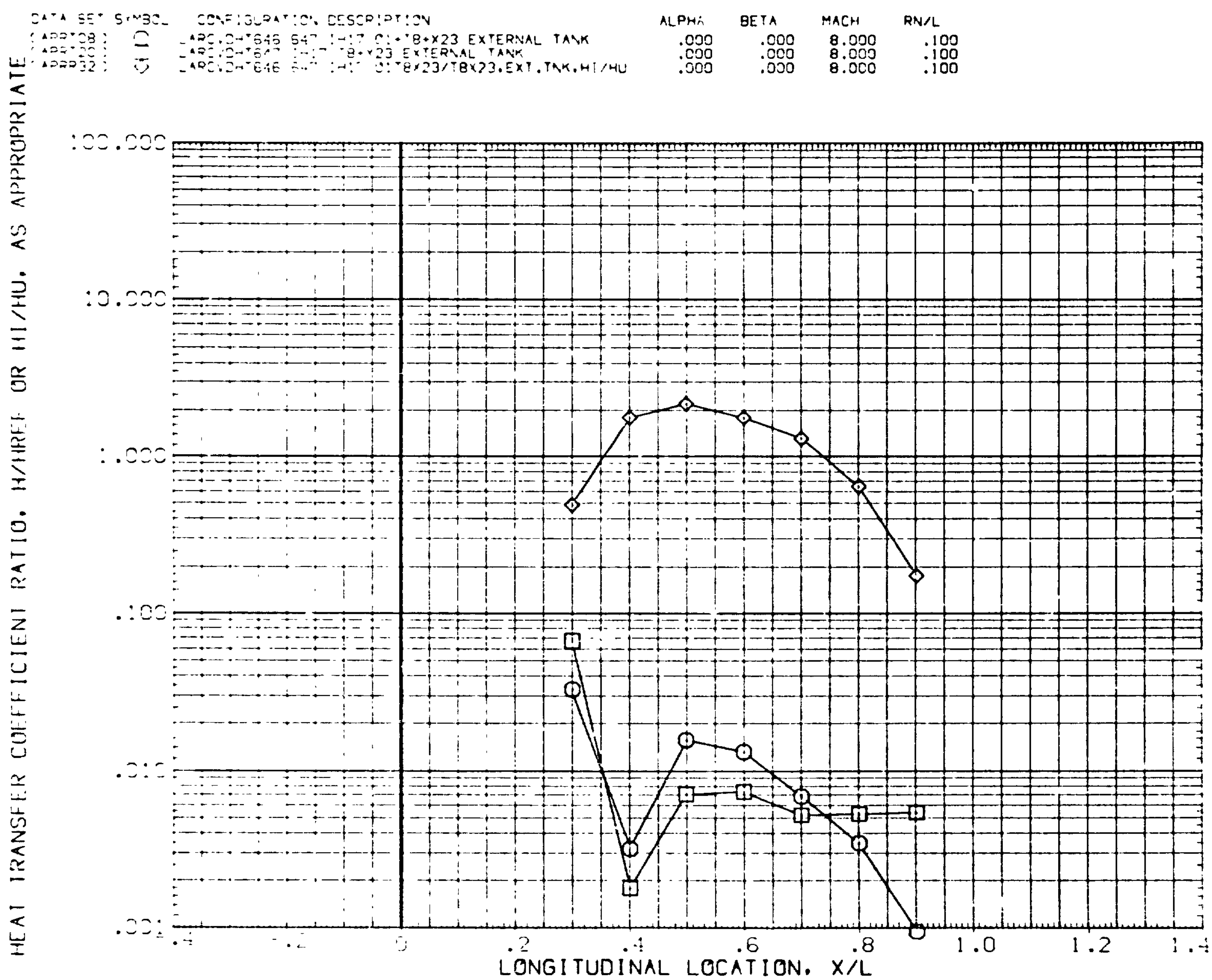


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

.850 PHI = 112.500

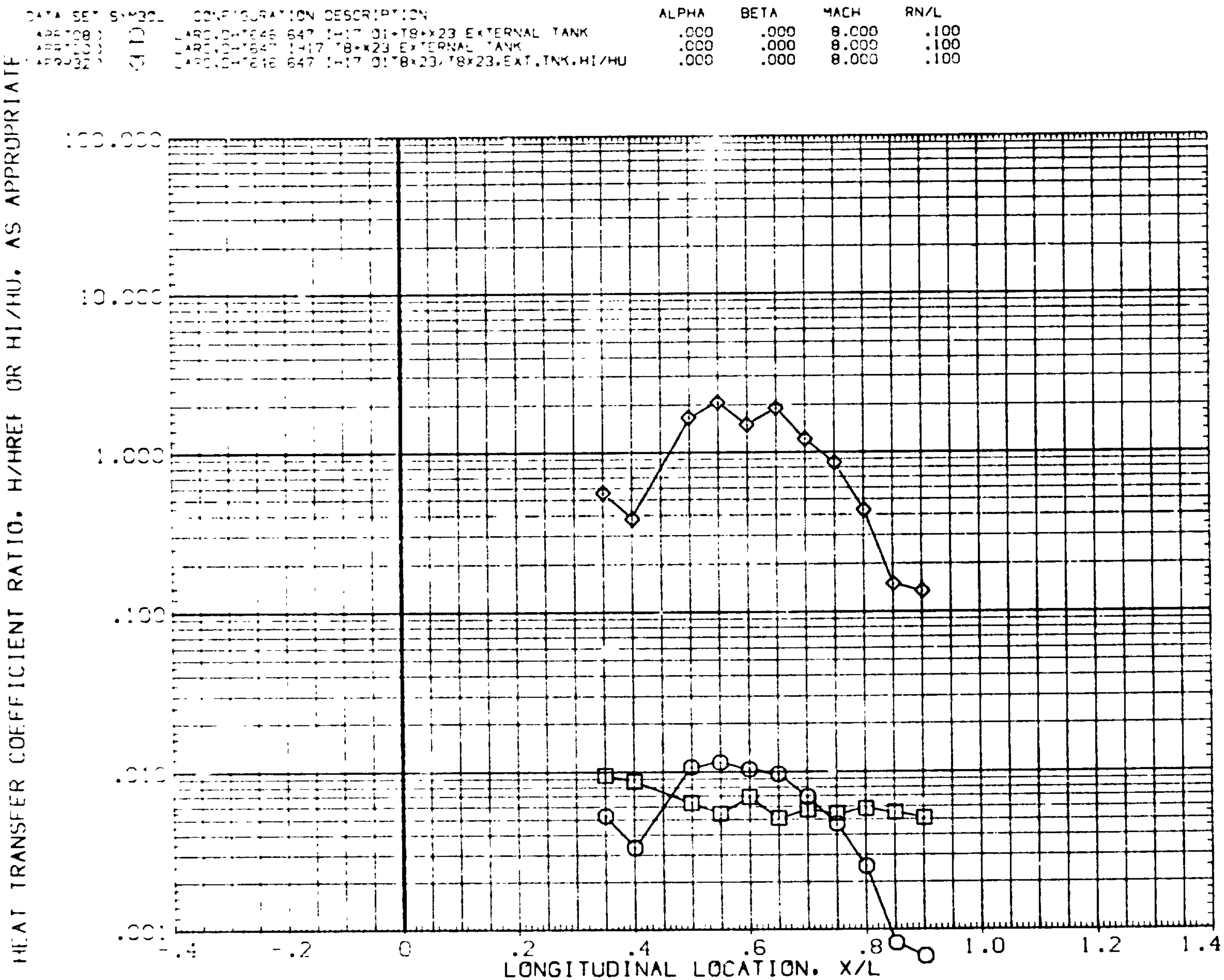


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .850 PHI = 135.000

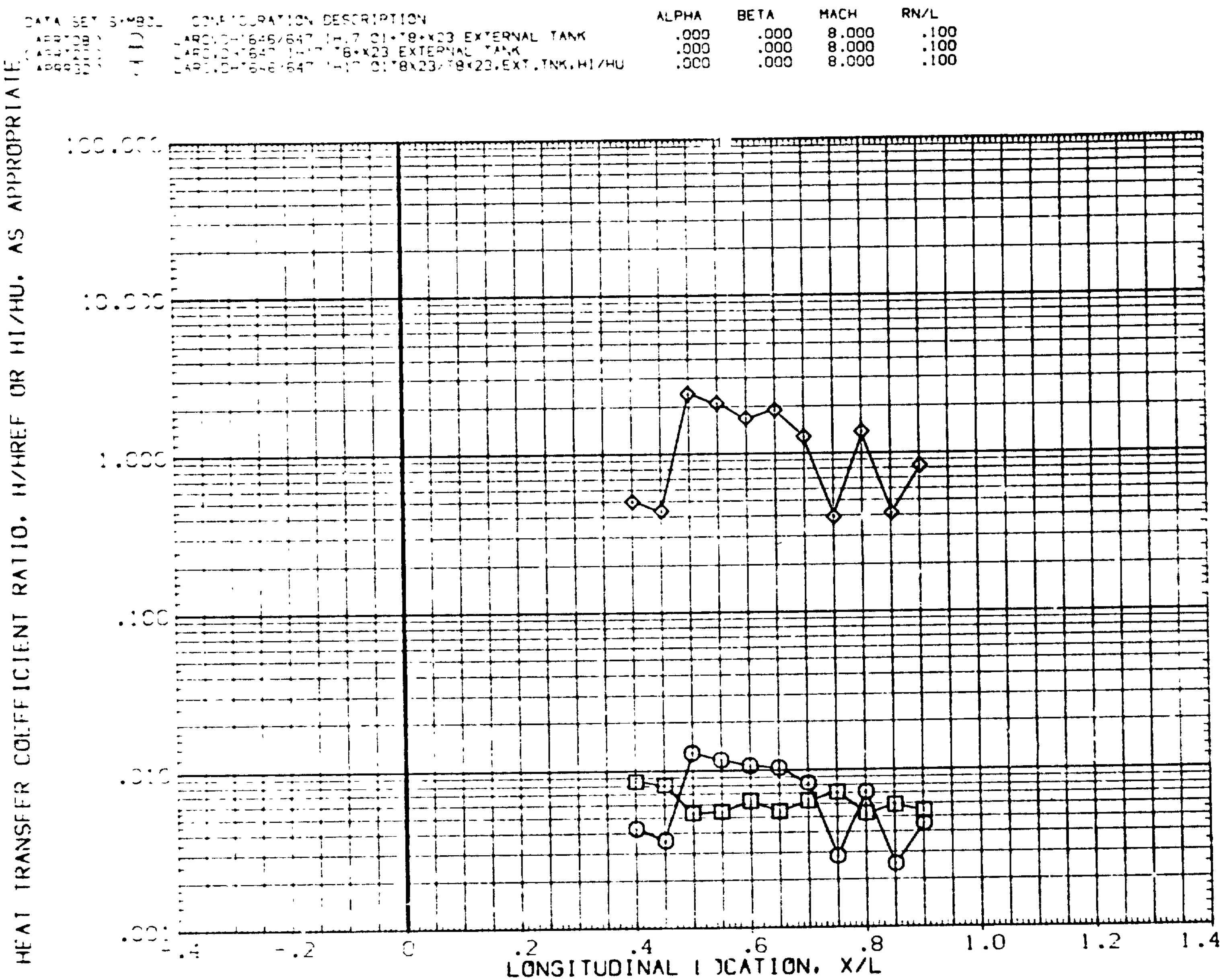


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 .850 PHI = 157.500

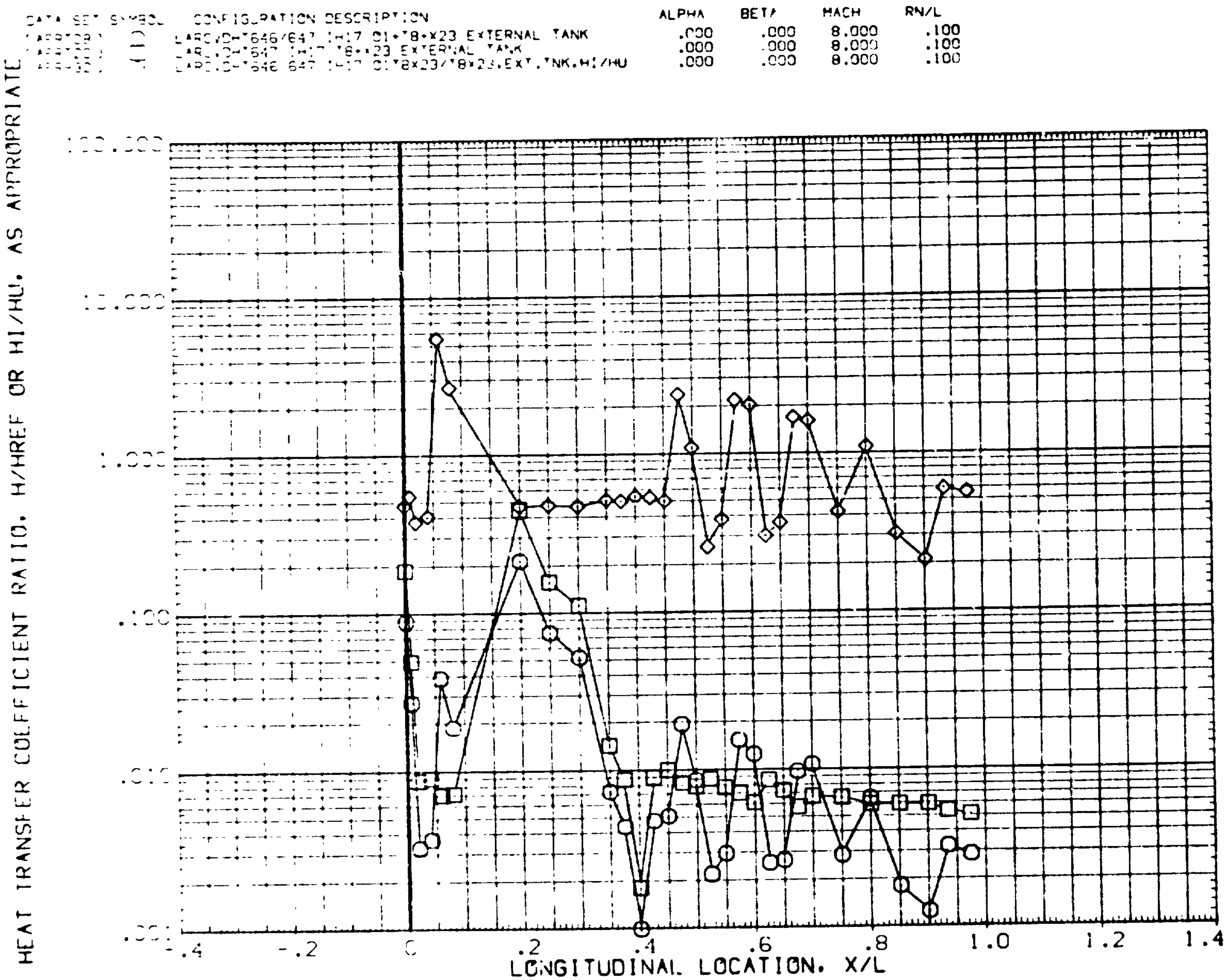


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT = .850 PHI = 180.000

DATA SET SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(ARP[illegible])	LARC[illegible] 64T HIT O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	.100
(ARP[illegible])	LARC[illegible] HIT T8+X23 EXTERNAL TANK	.000	.000	8.000	.100
(ARP32)	LARC[illegible] 64T HIT O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	.100

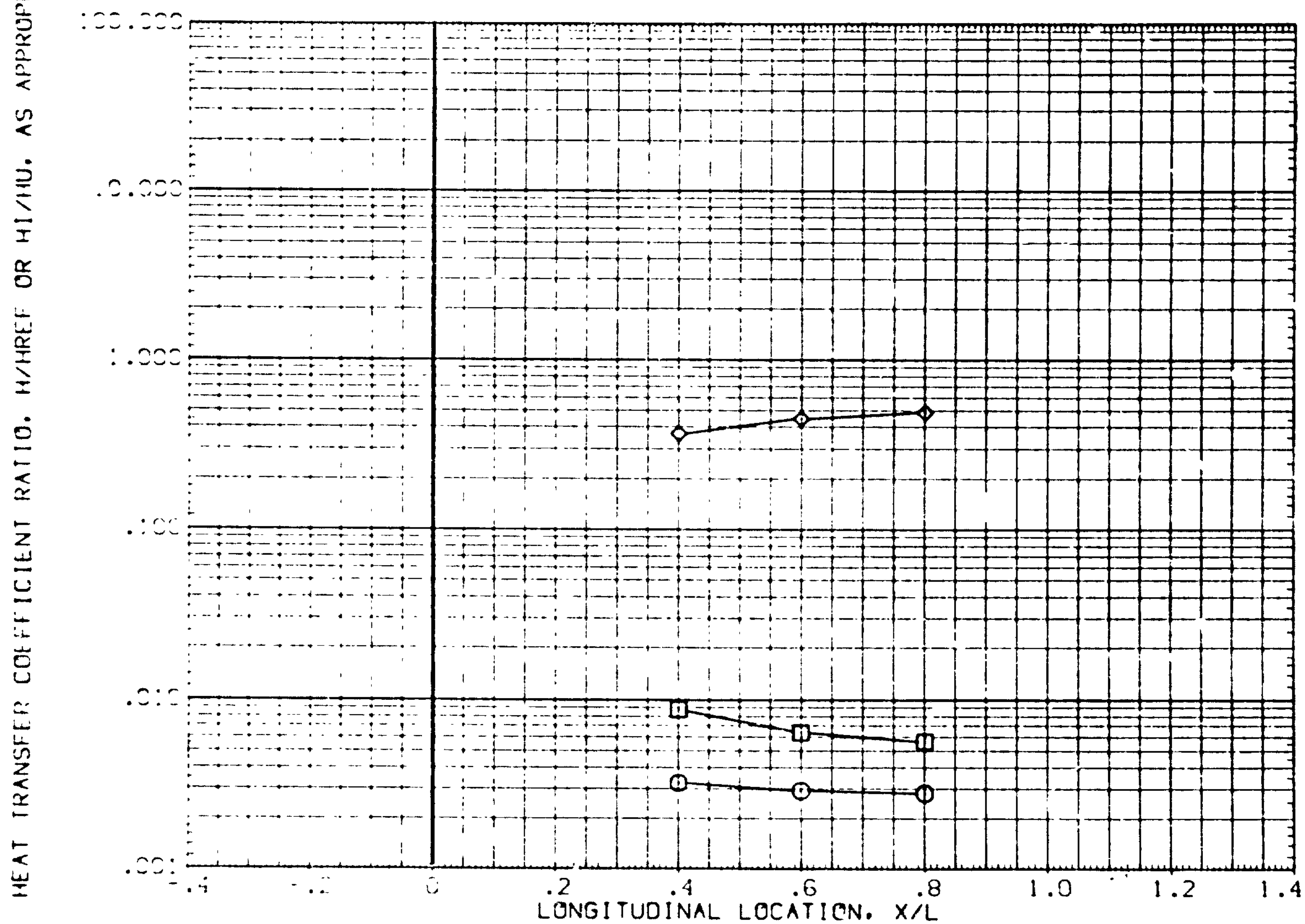


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

[illegible] = .100 [illegible] .000 PHI = .000

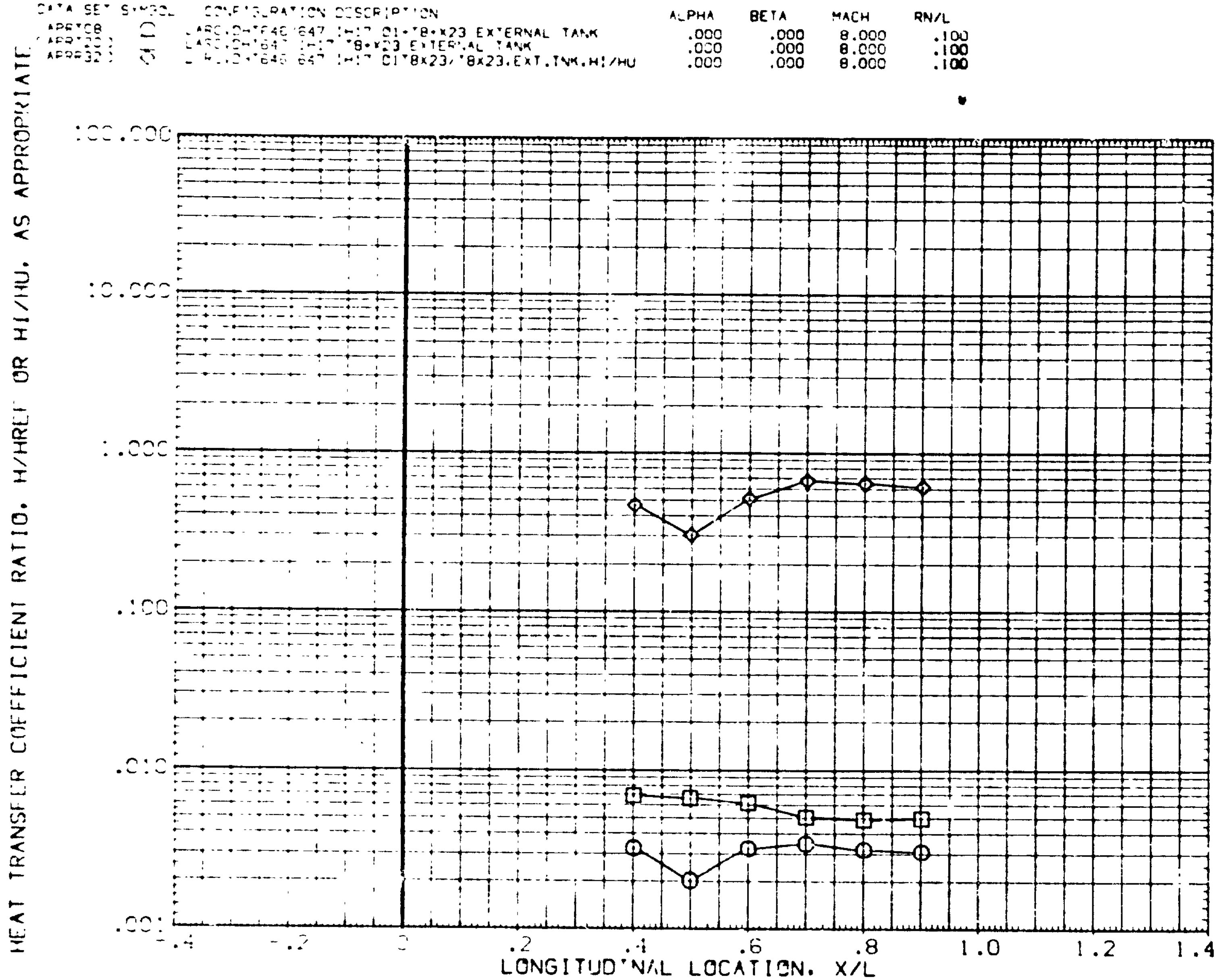


FIG 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 H/A HT = .900 PHI = 45.000

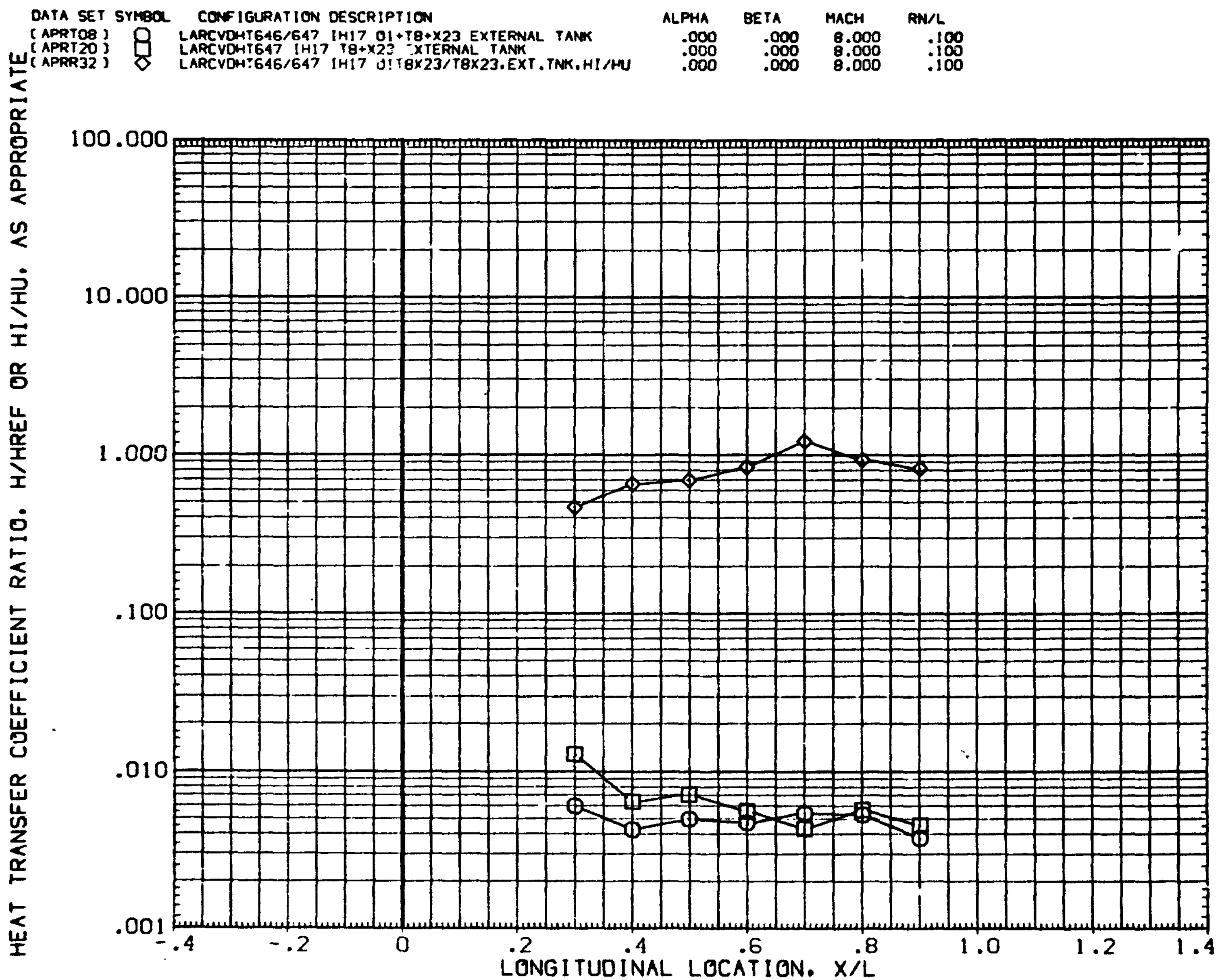


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = 67.500

C-4

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT08)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	.100
(APRT20)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	.100
(APRR32)	◇	LARCVDHT646/647 IH17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	.100

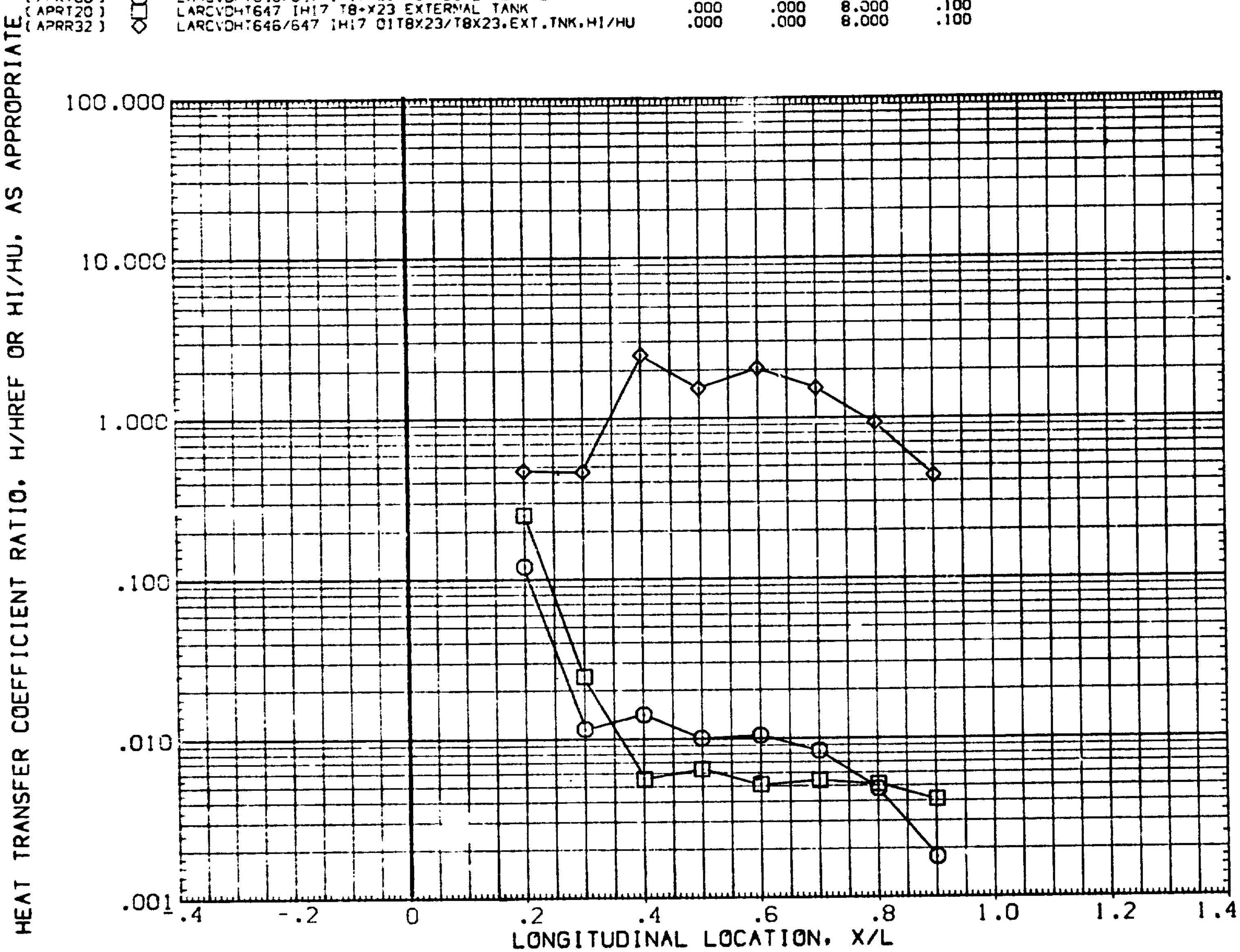


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = 90.000

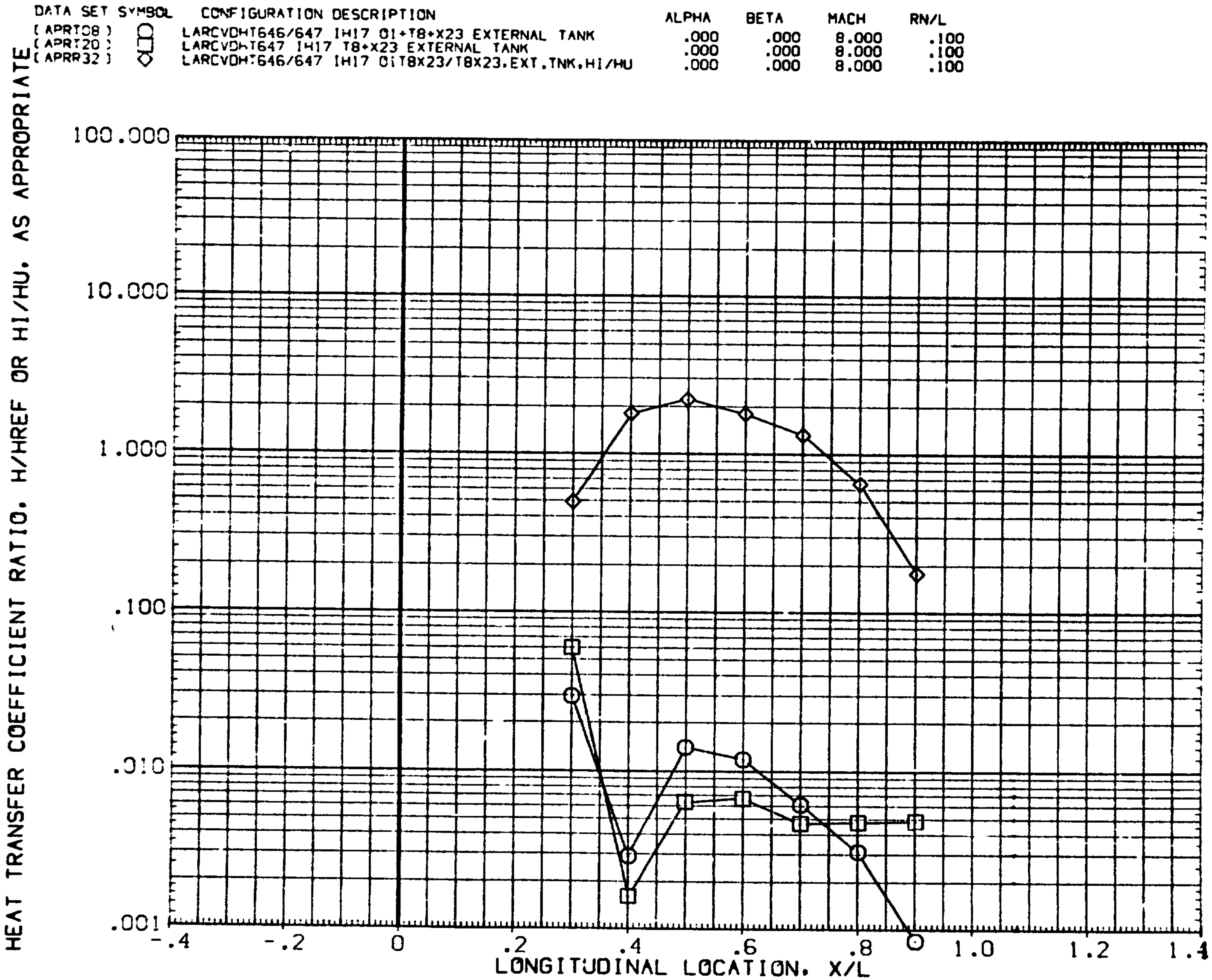


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = 112.500

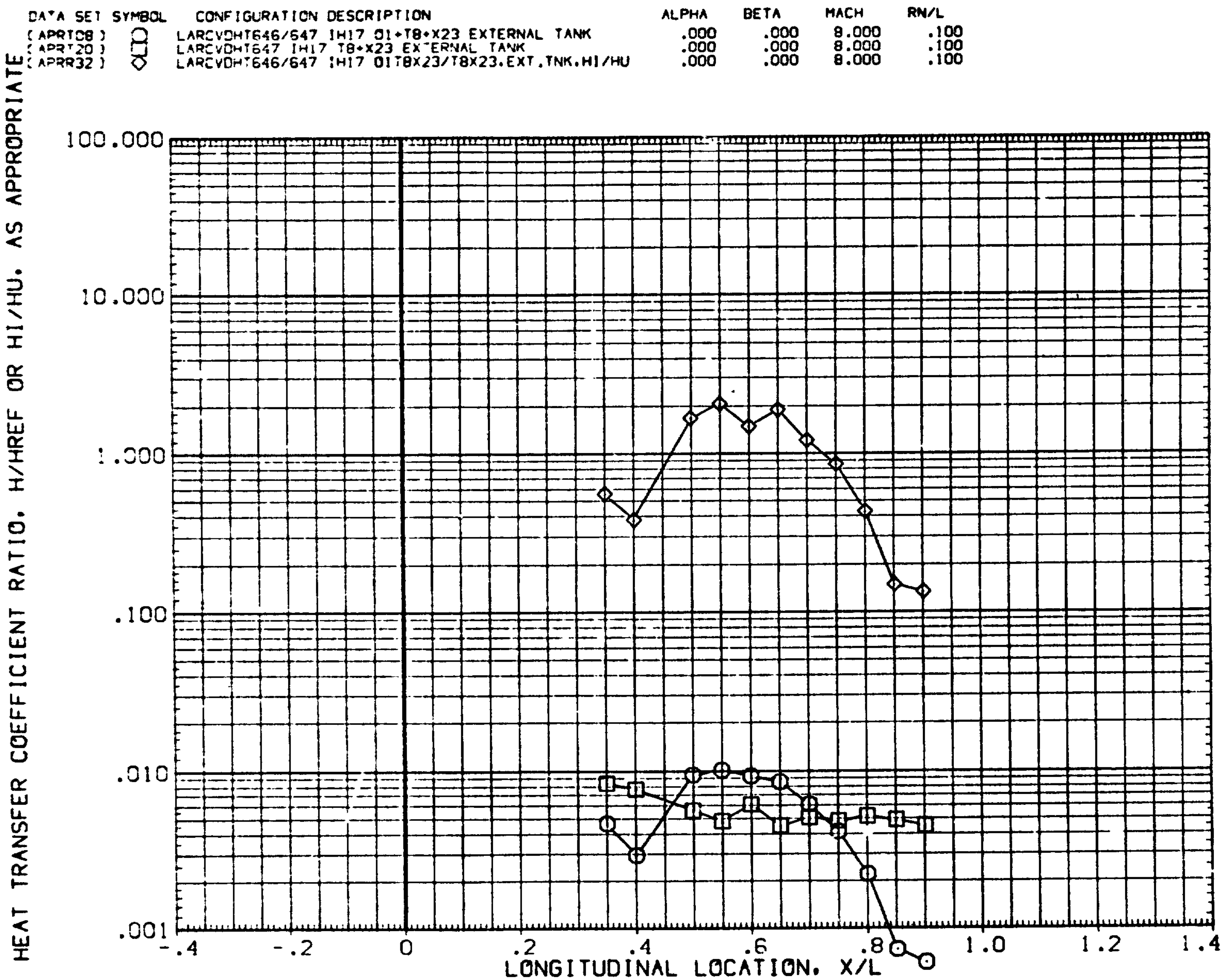


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = 135.000

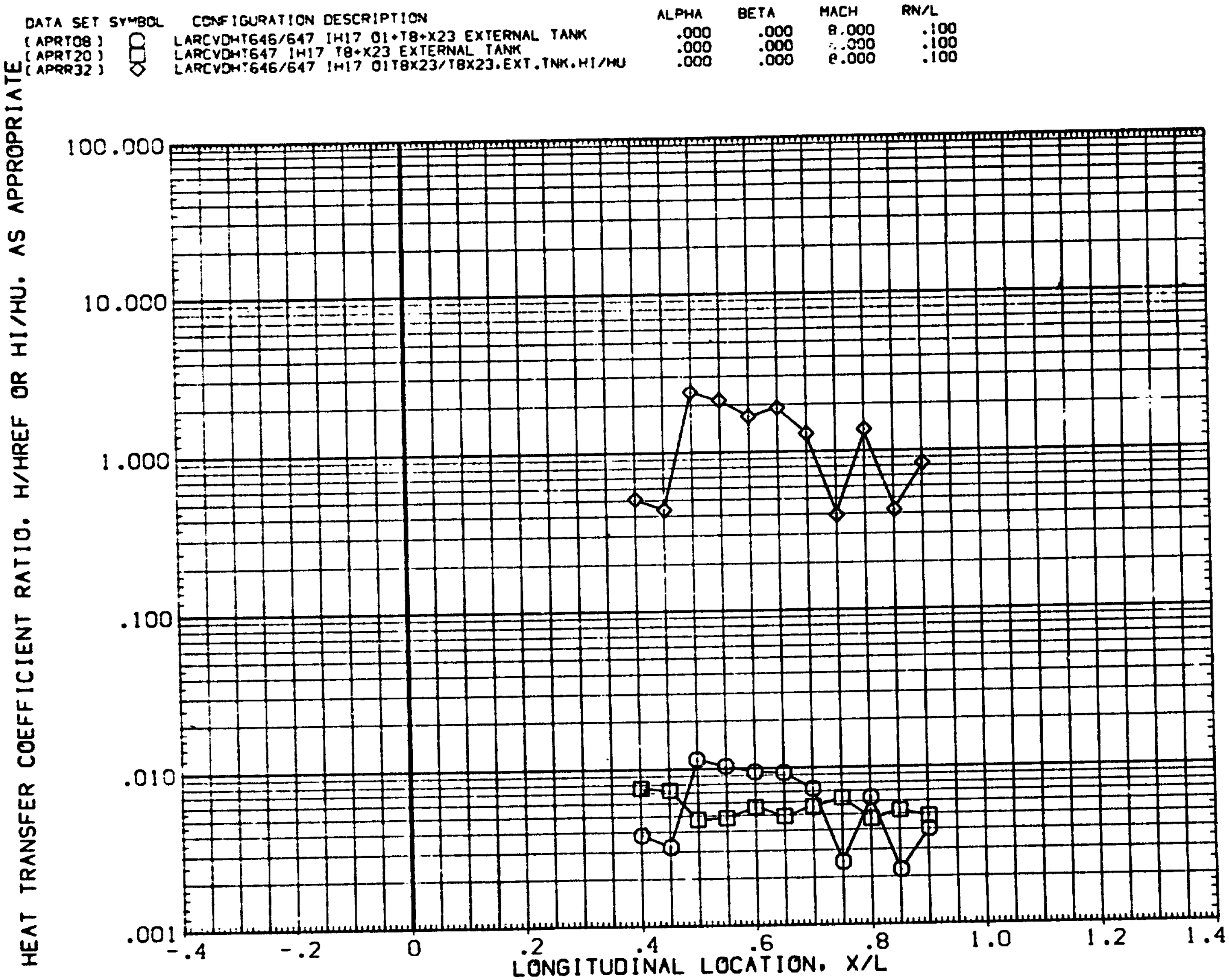


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = 157.500

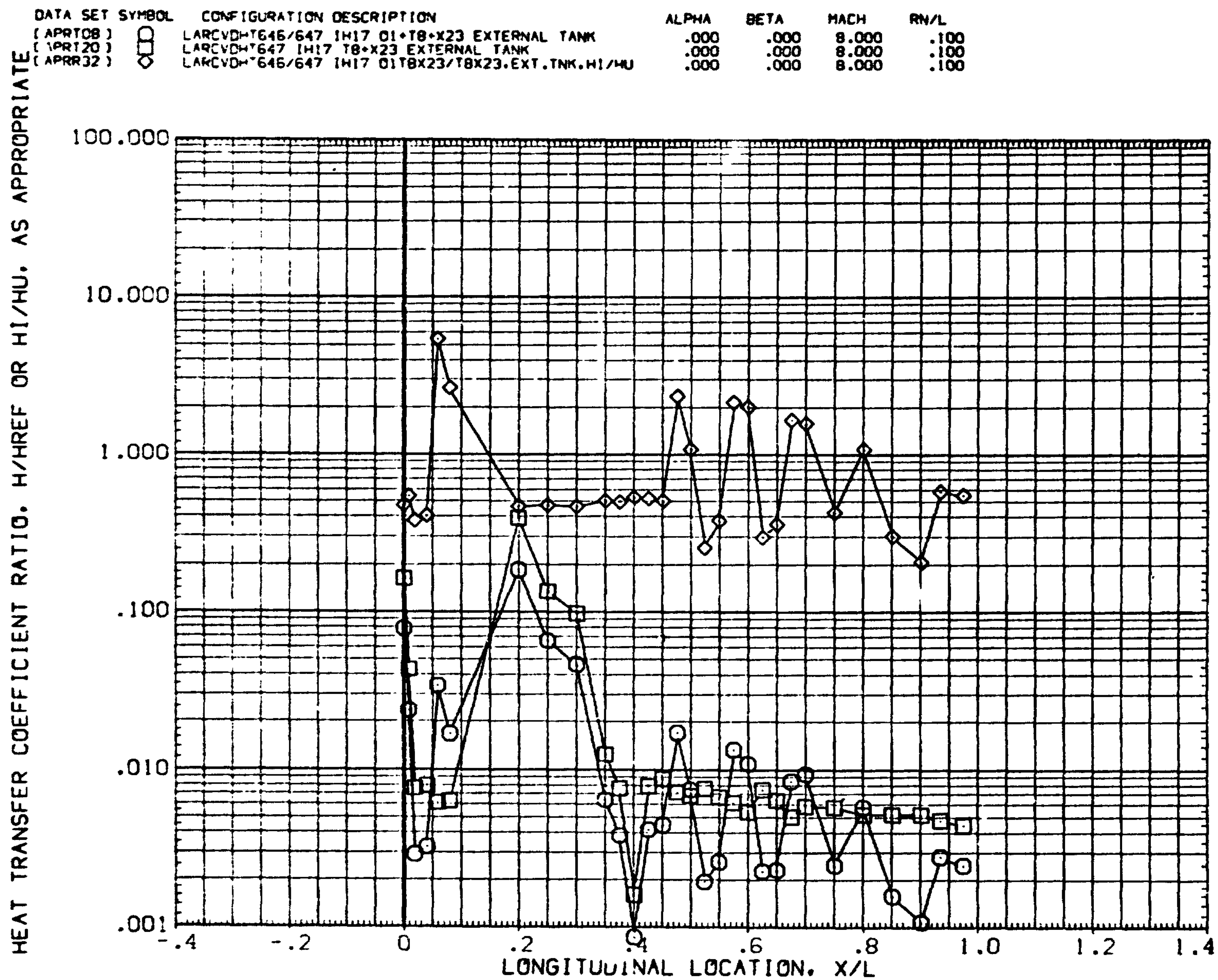


FIG. 35 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.1, ALPHA= 0.0)

RN/L = .100 HAW/HT= .900 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT09)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	.500
(APRT21)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	.500
(APRR33)	◇	LARCVDHT646/647 IH17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	.500

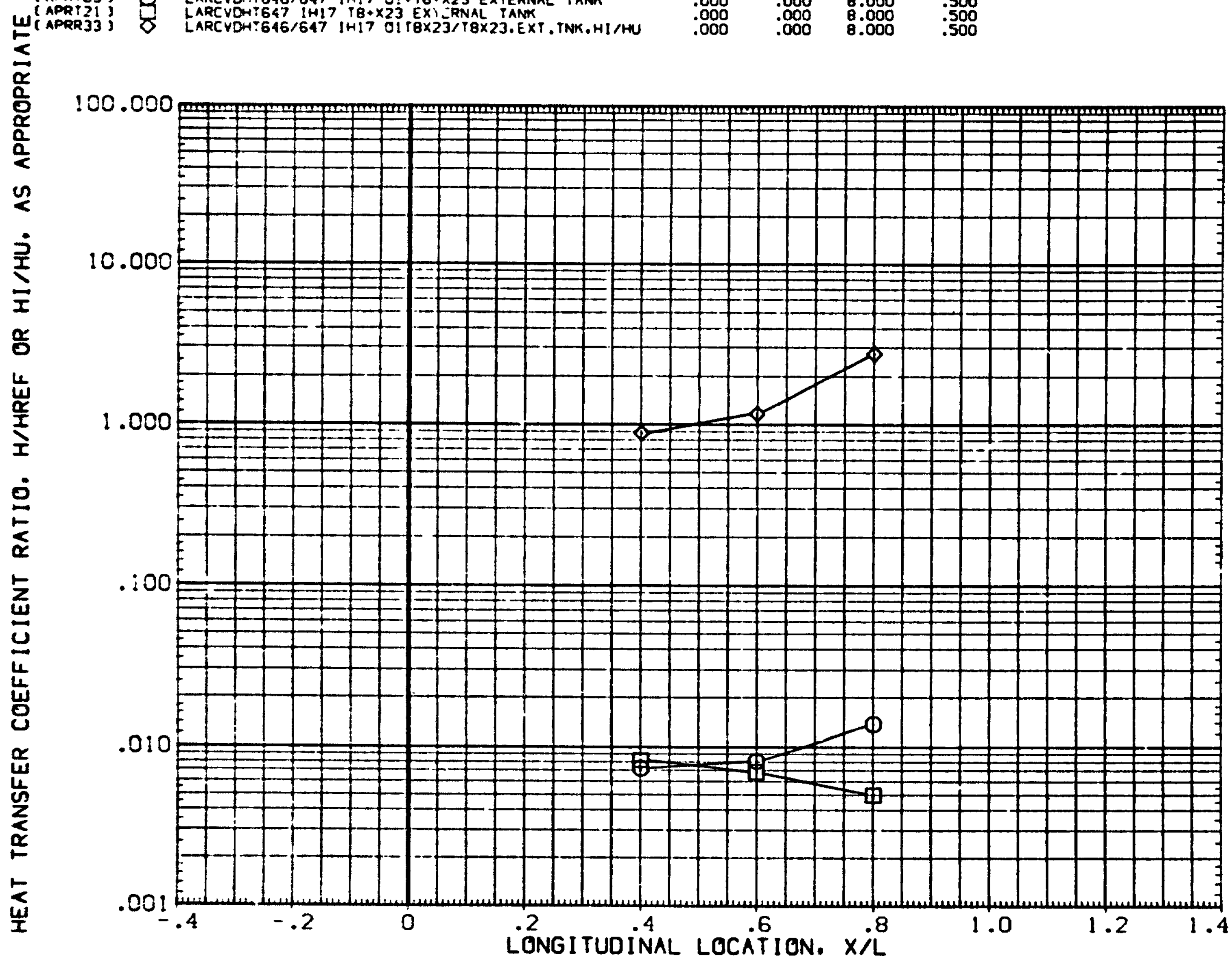


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = .000

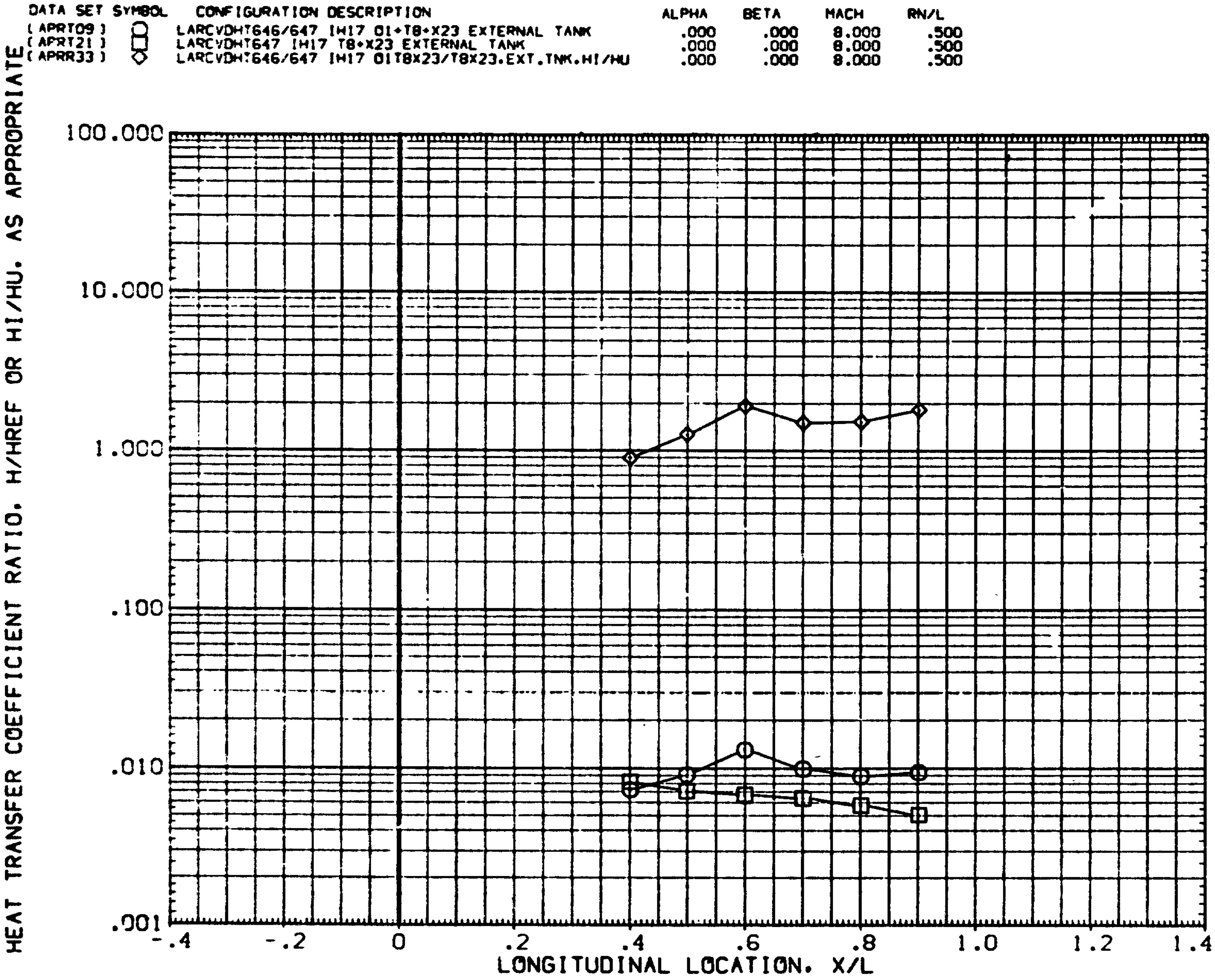


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = 45.000

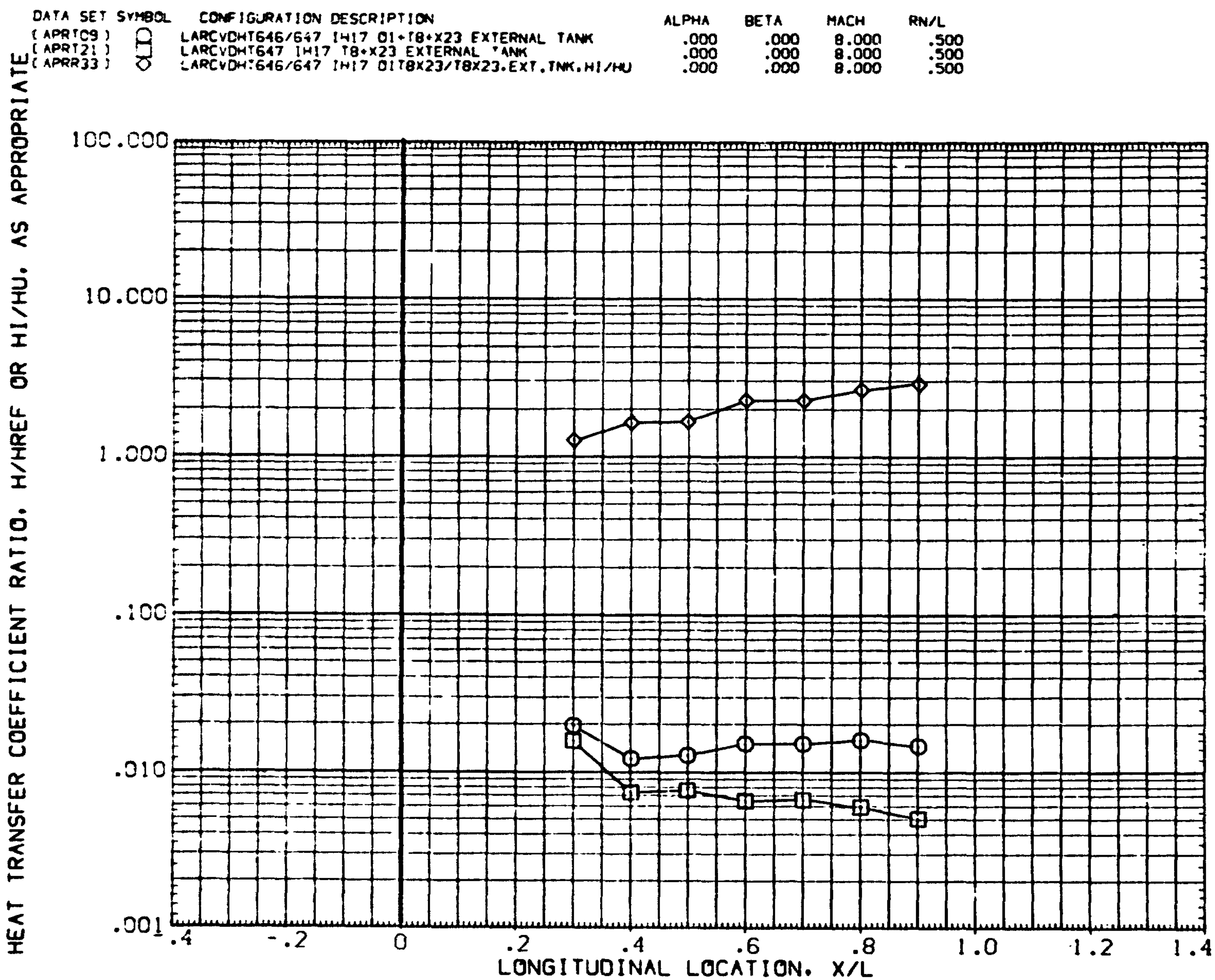


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = 67.500

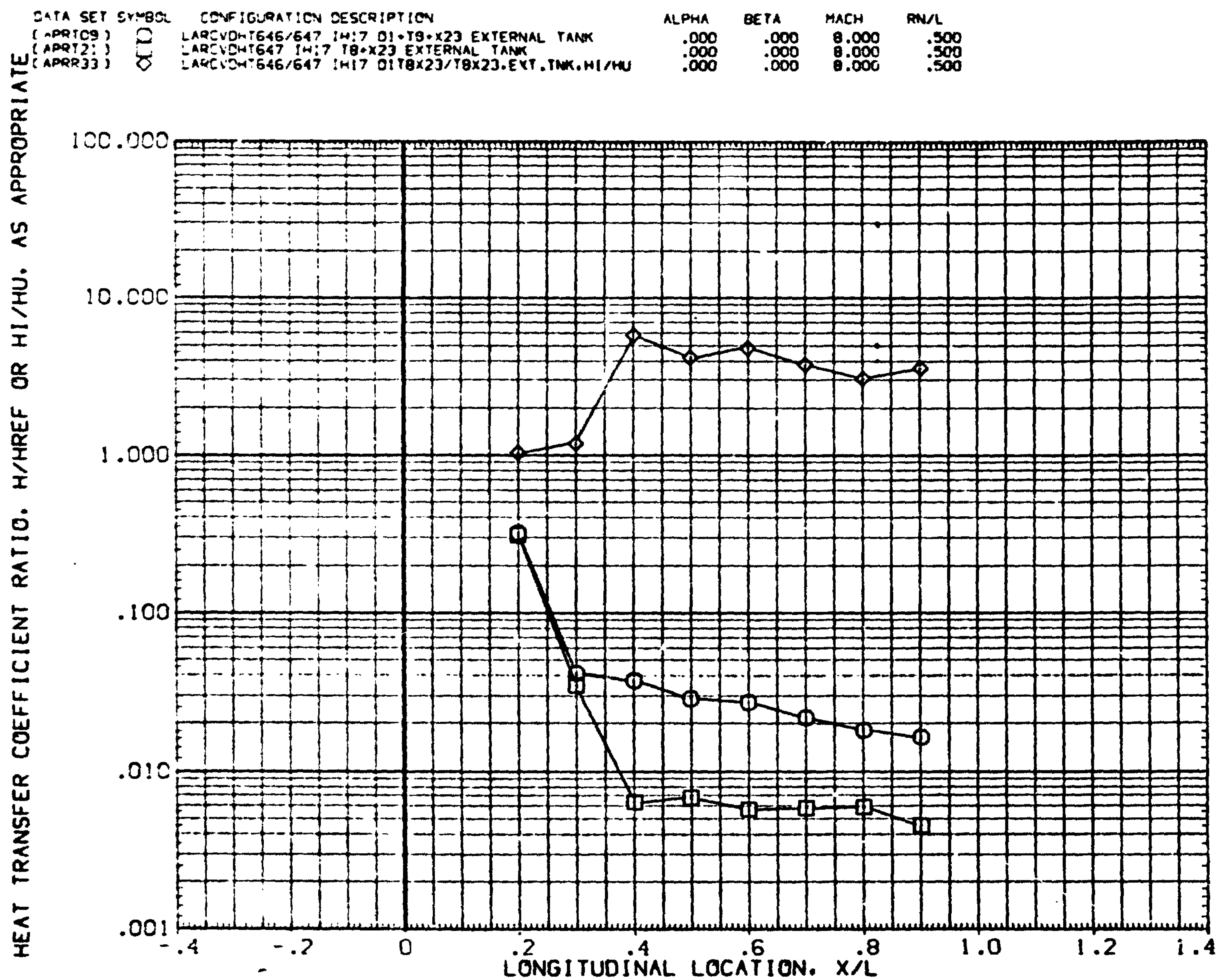


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = 90.000

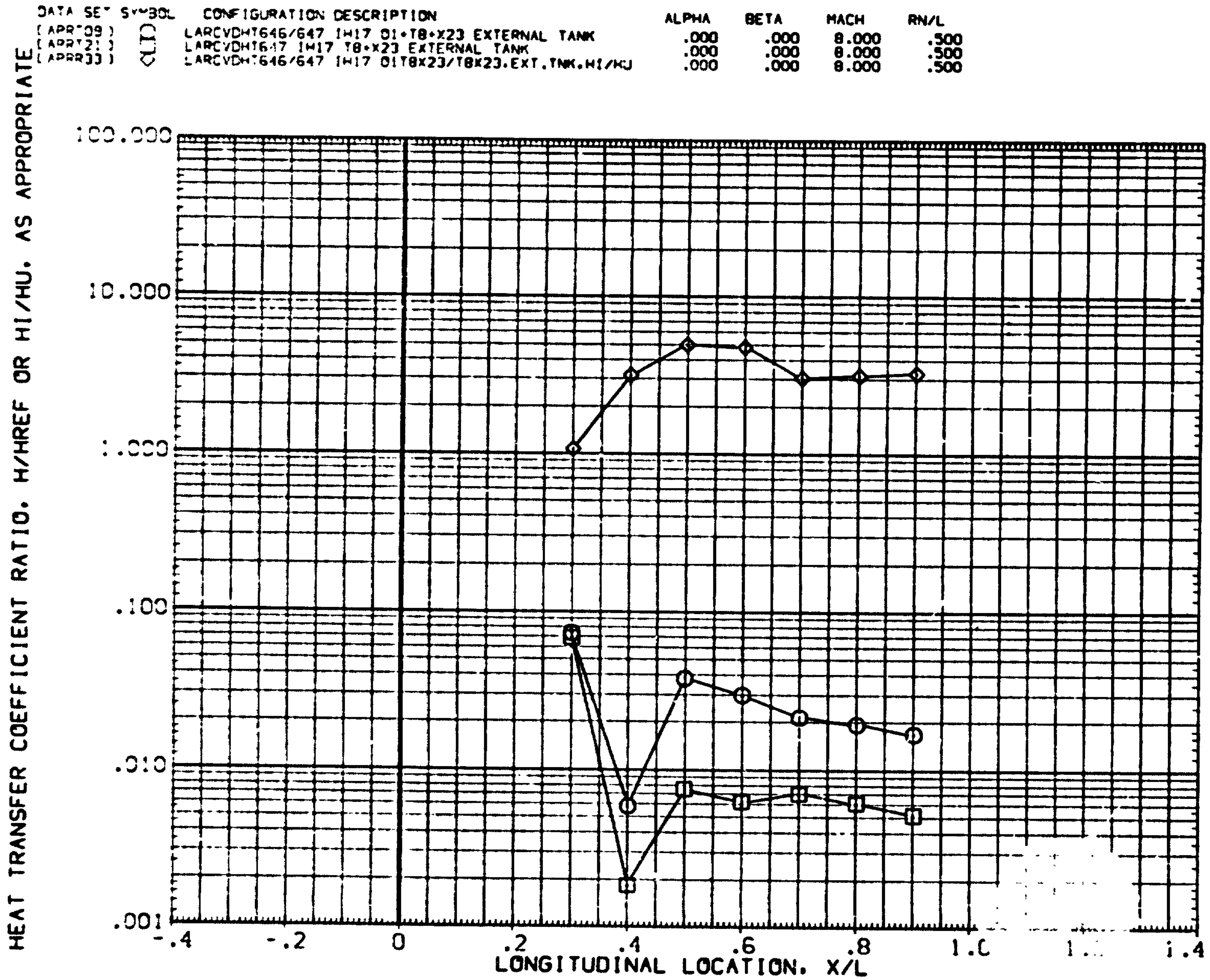


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = 112.500

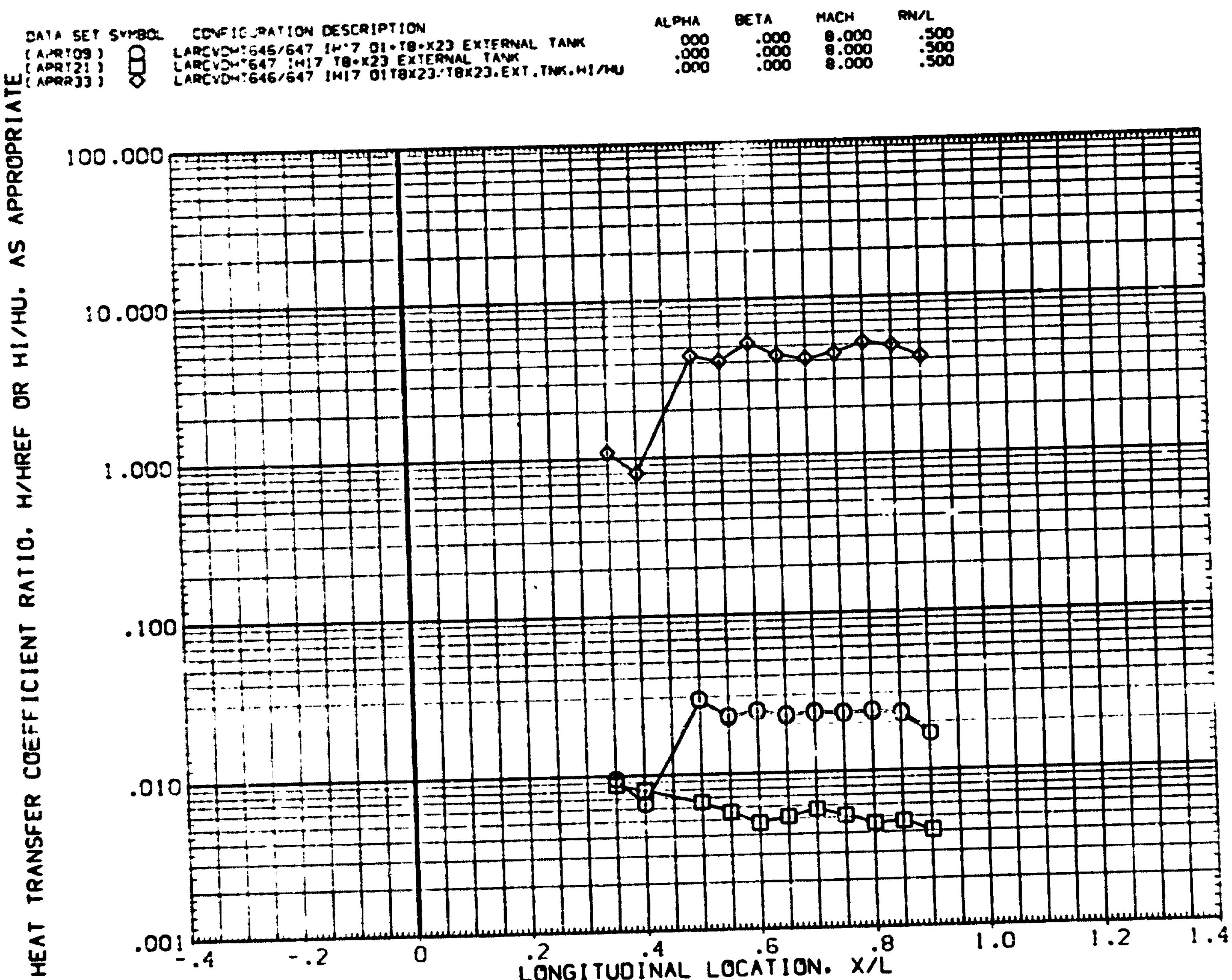


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = 135.000

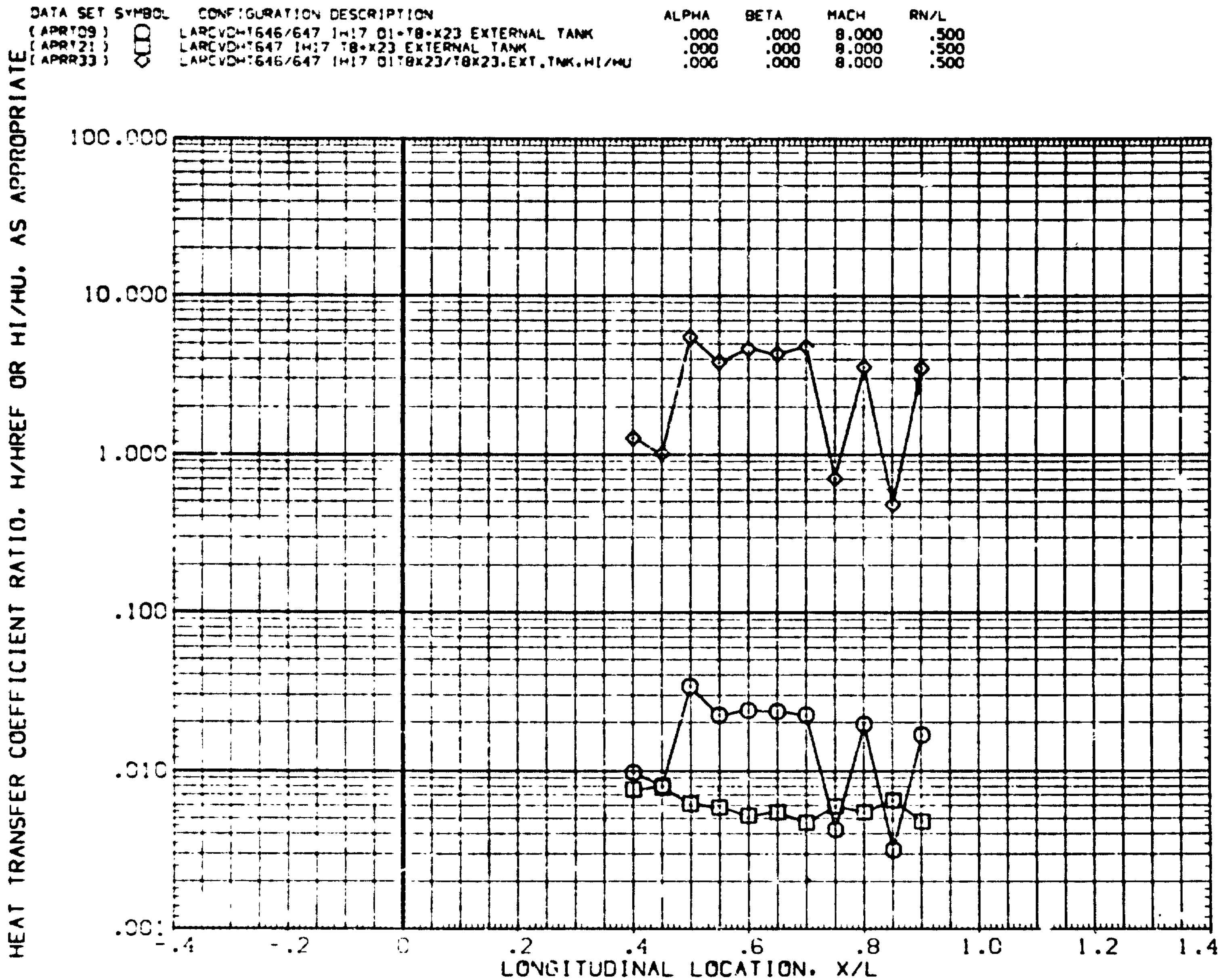


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L-0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT = .850 PHI = 157.500 PAGE 255

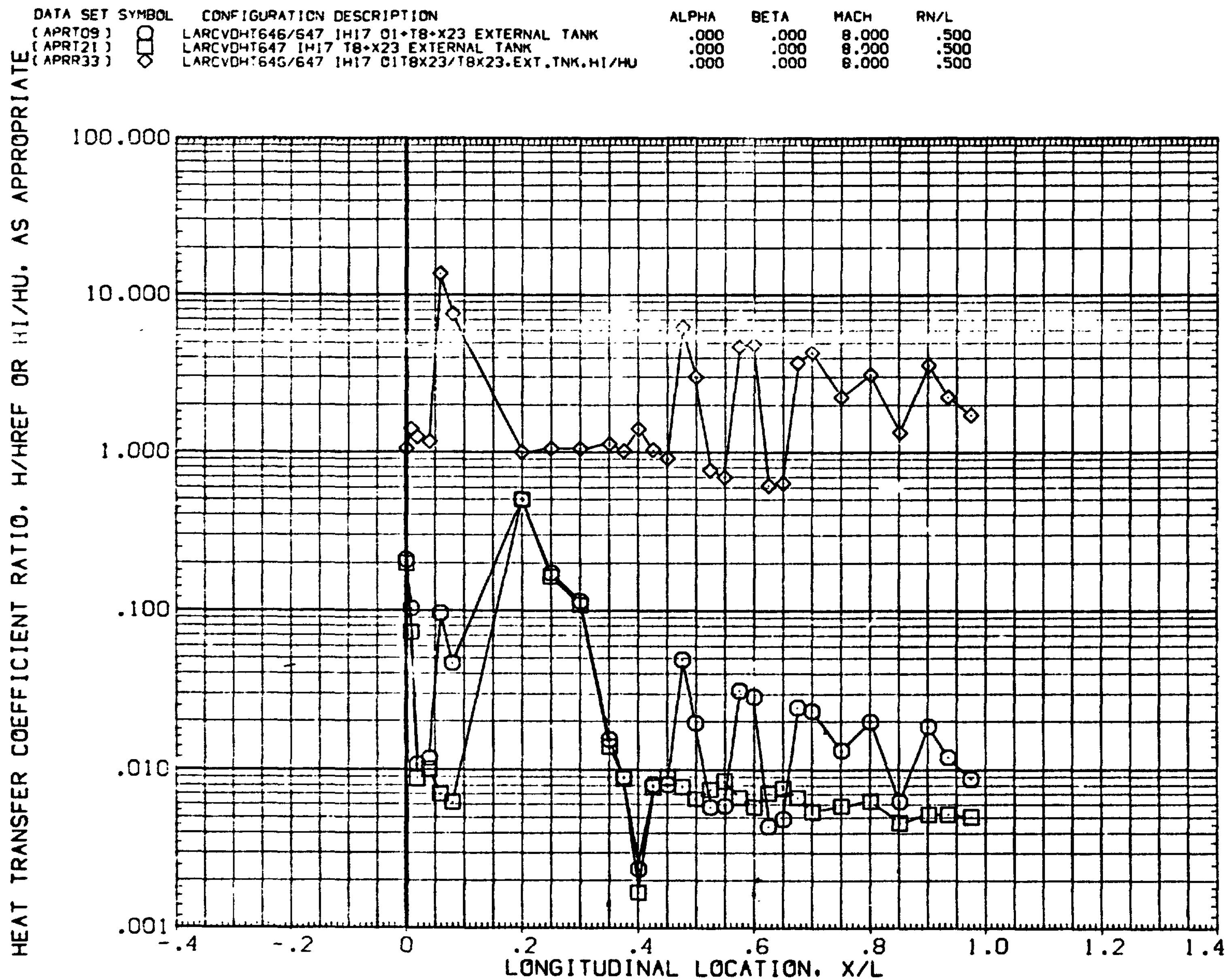


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .850 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT09)	○	LARCVDHT646/647 IH17 01+T8+X23 EXTERNAL TANK	.000	.000	8.000	.500
(APRT21)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	.500
(APRR33)	◇	LARCVDHT646/647 IH17 01T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	.500

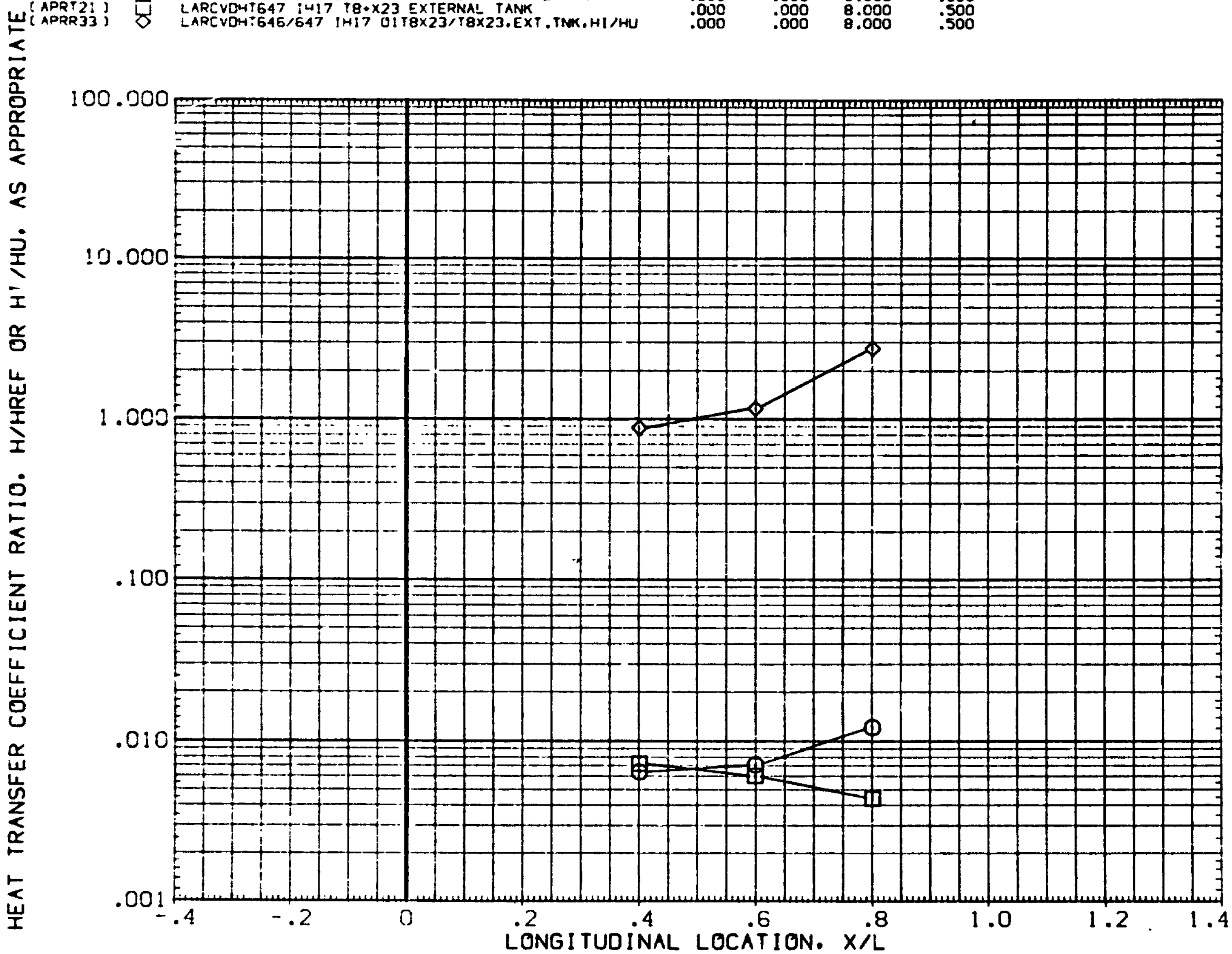


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = .000

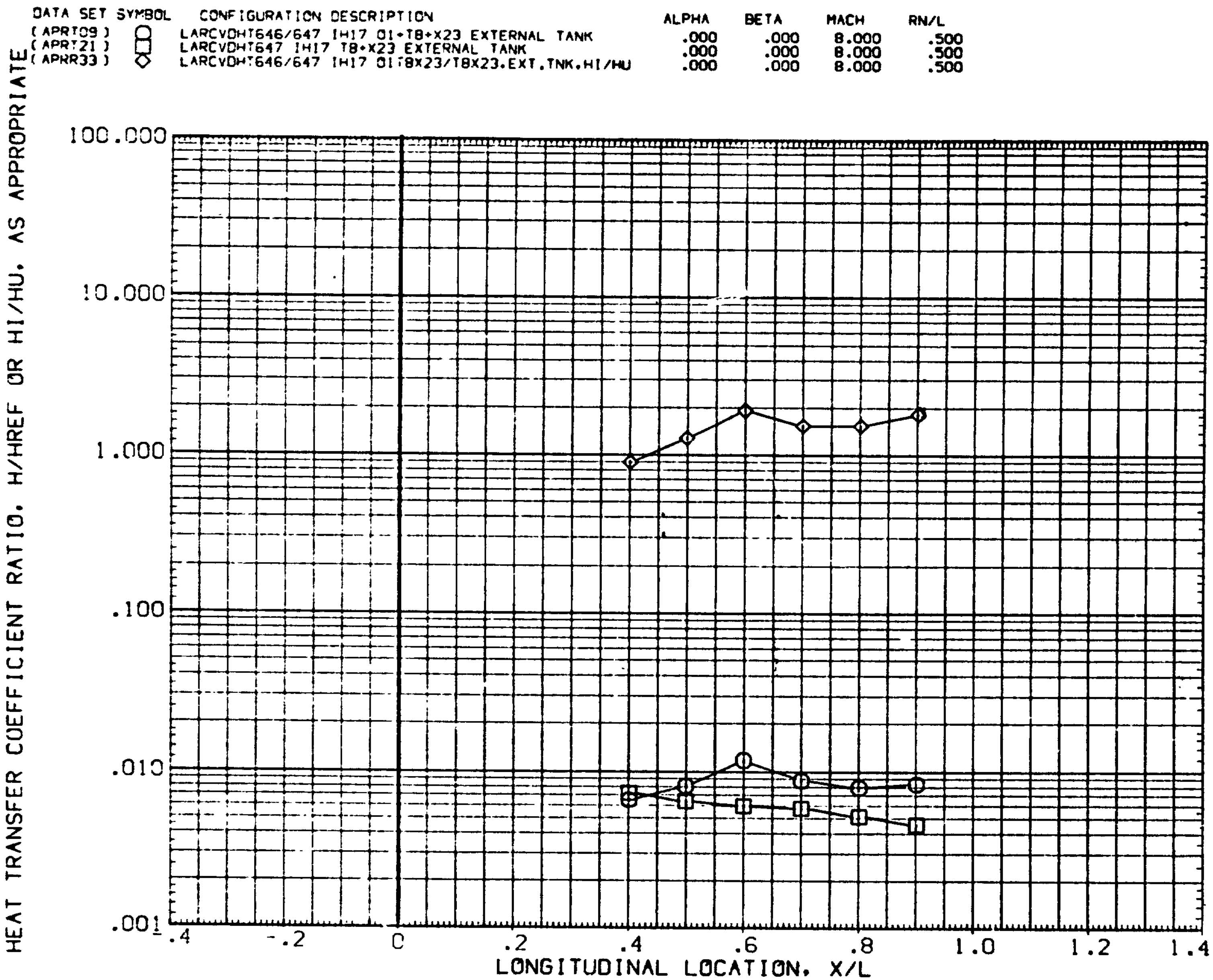


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 45.000

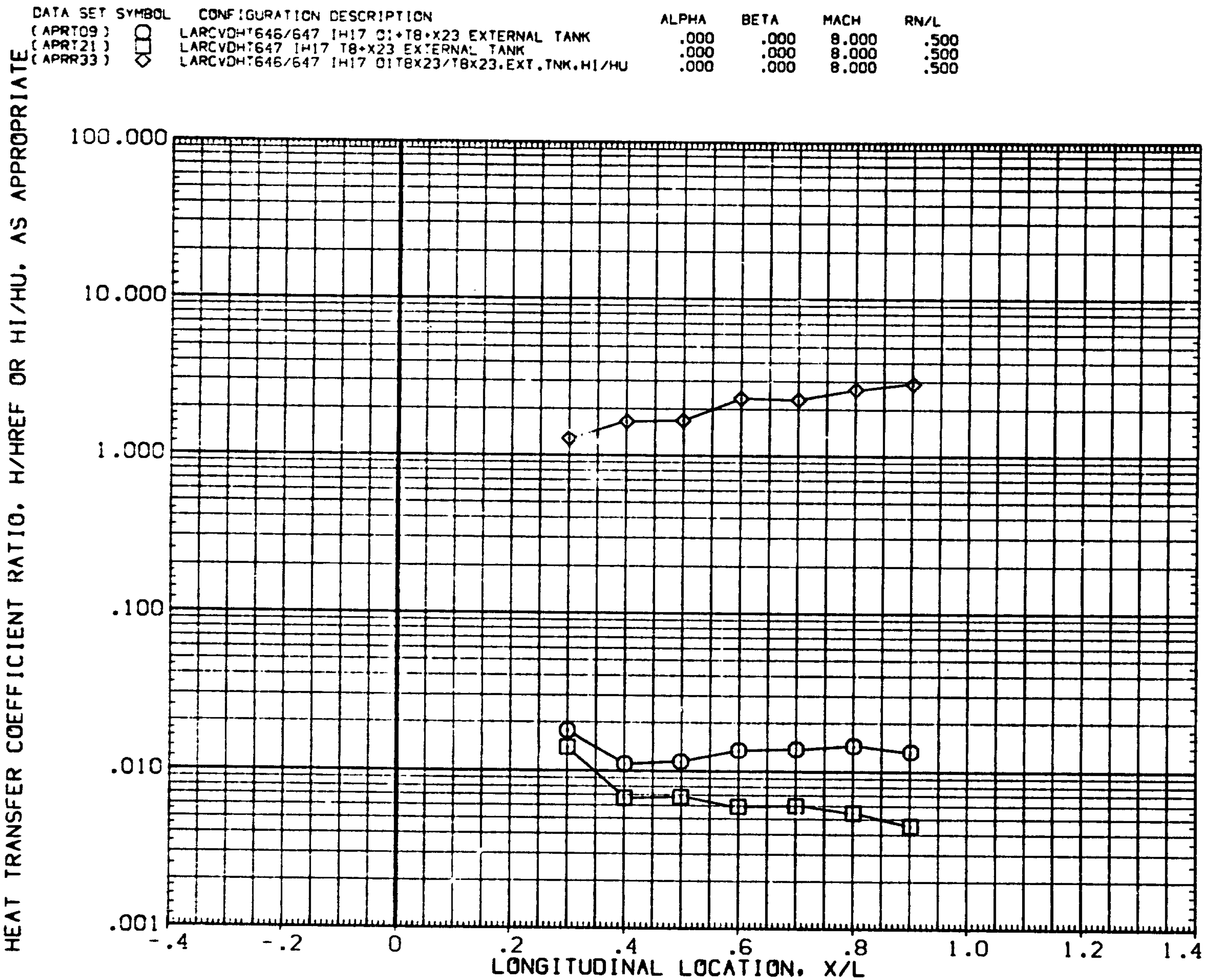


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 67.500

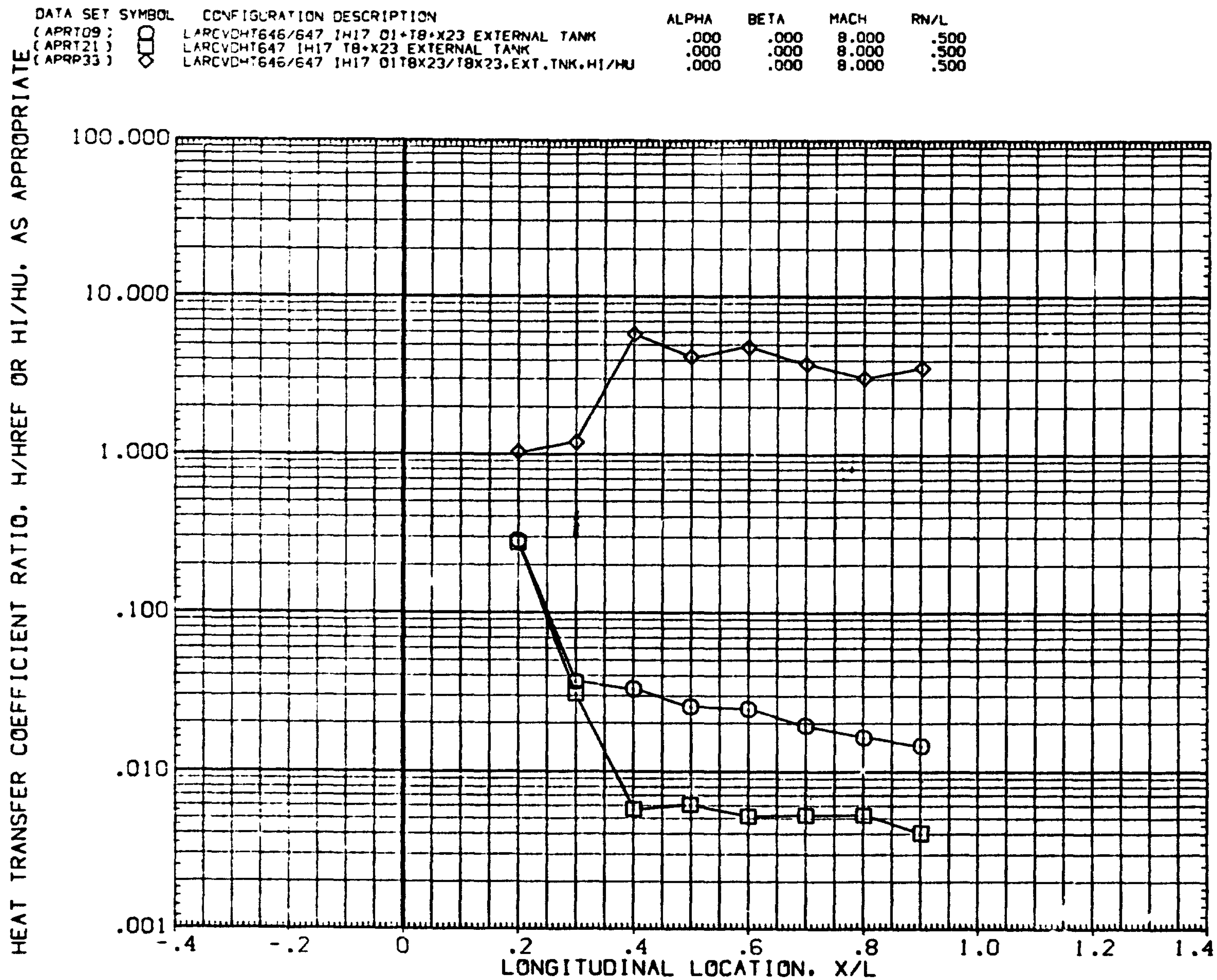


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 90.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT03)	○	LARCVDHT646/647 1H17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	.500
(APRT21)	□	LARCVDHT647 1H17 T8+X23 EXTERNAL TANK	.000	.000	8.000	.500
(APRR33)	◇	LARCVDHT646/647 1H17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	.500

FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 112.500

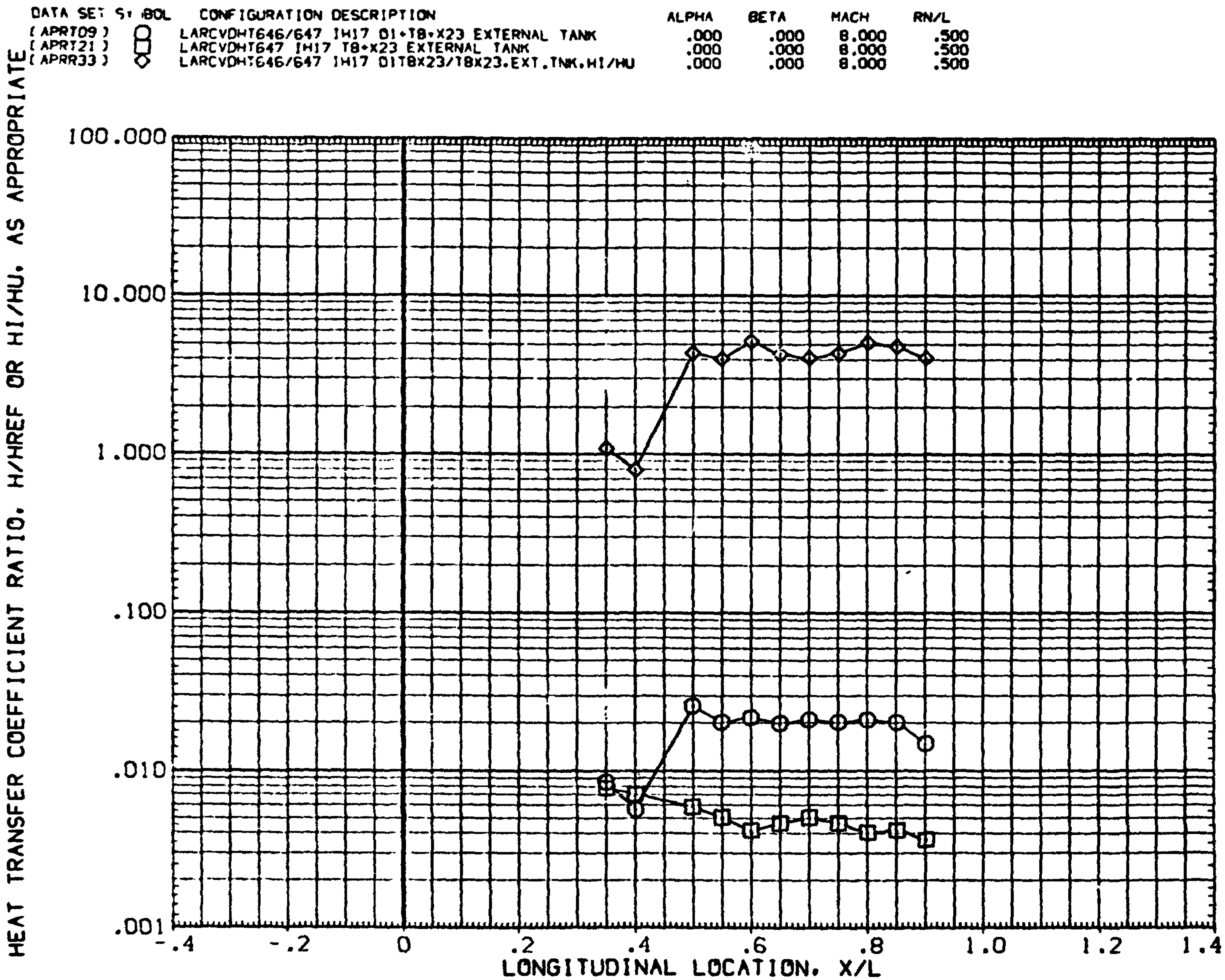


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 135.000

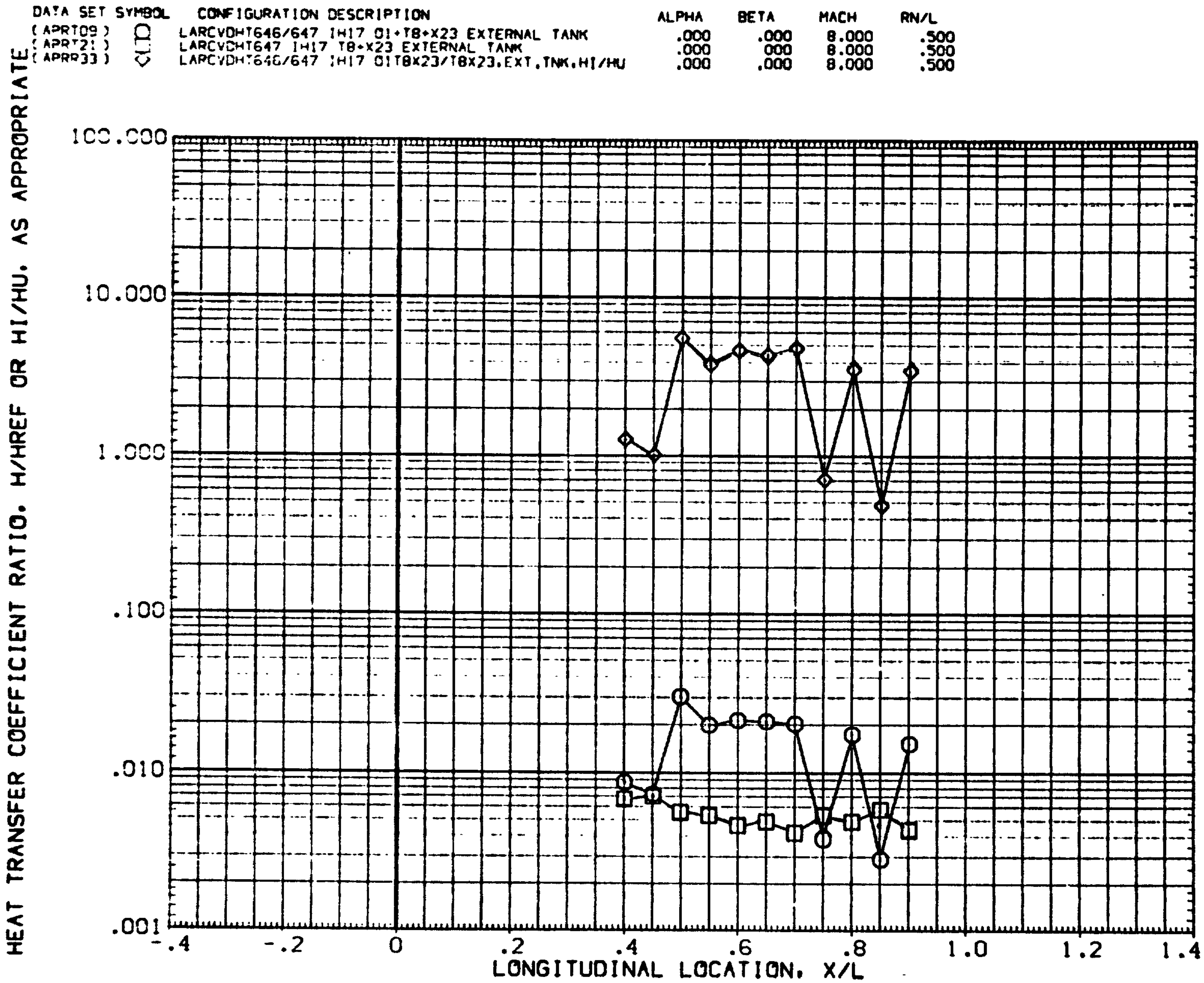


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 157.500

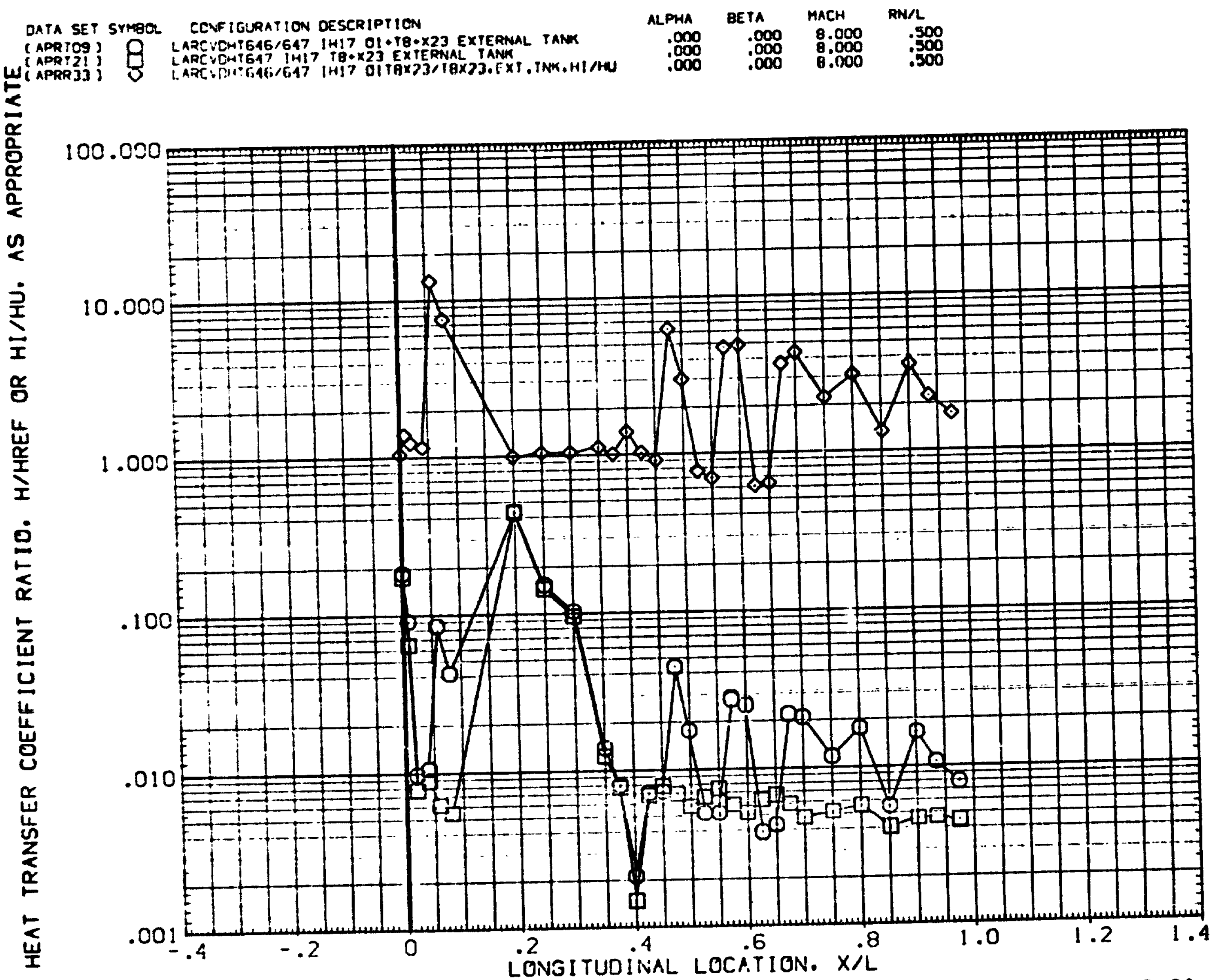


FIG. 36 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=0.5, ALPHA= 0.0)

RN/L = .500 HAW/HT= .900 PHI = 180.000

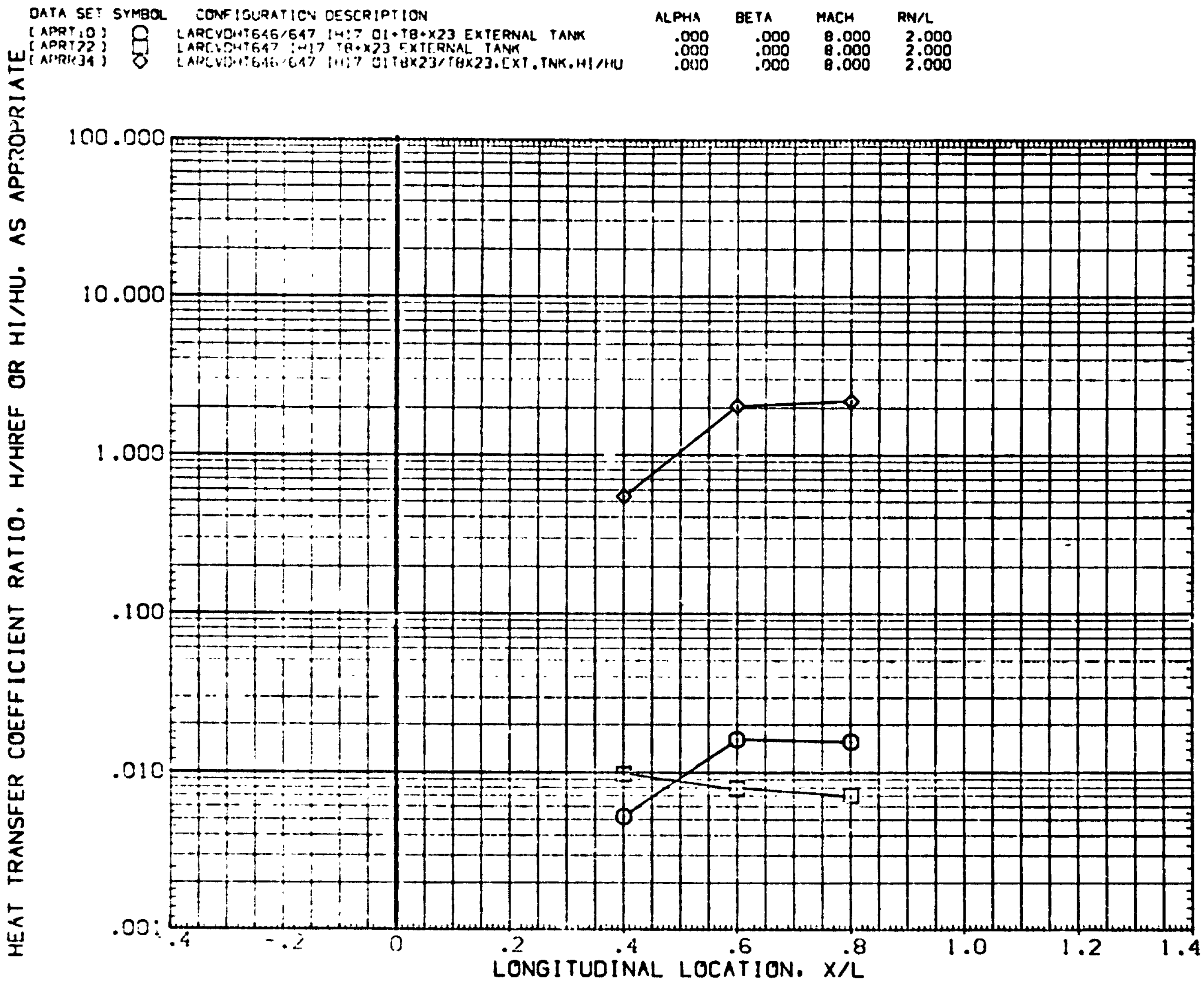


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = .000

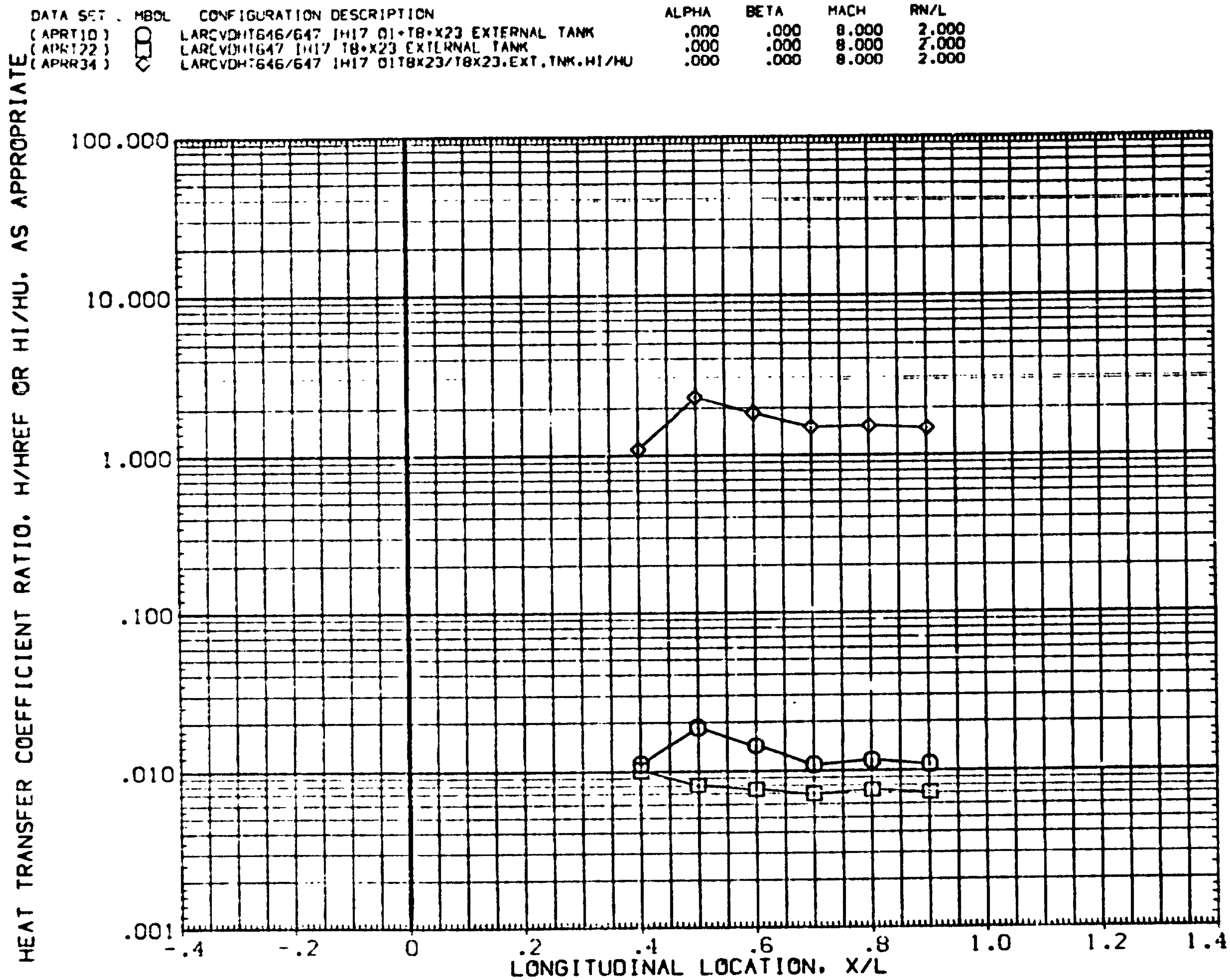


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 45.000

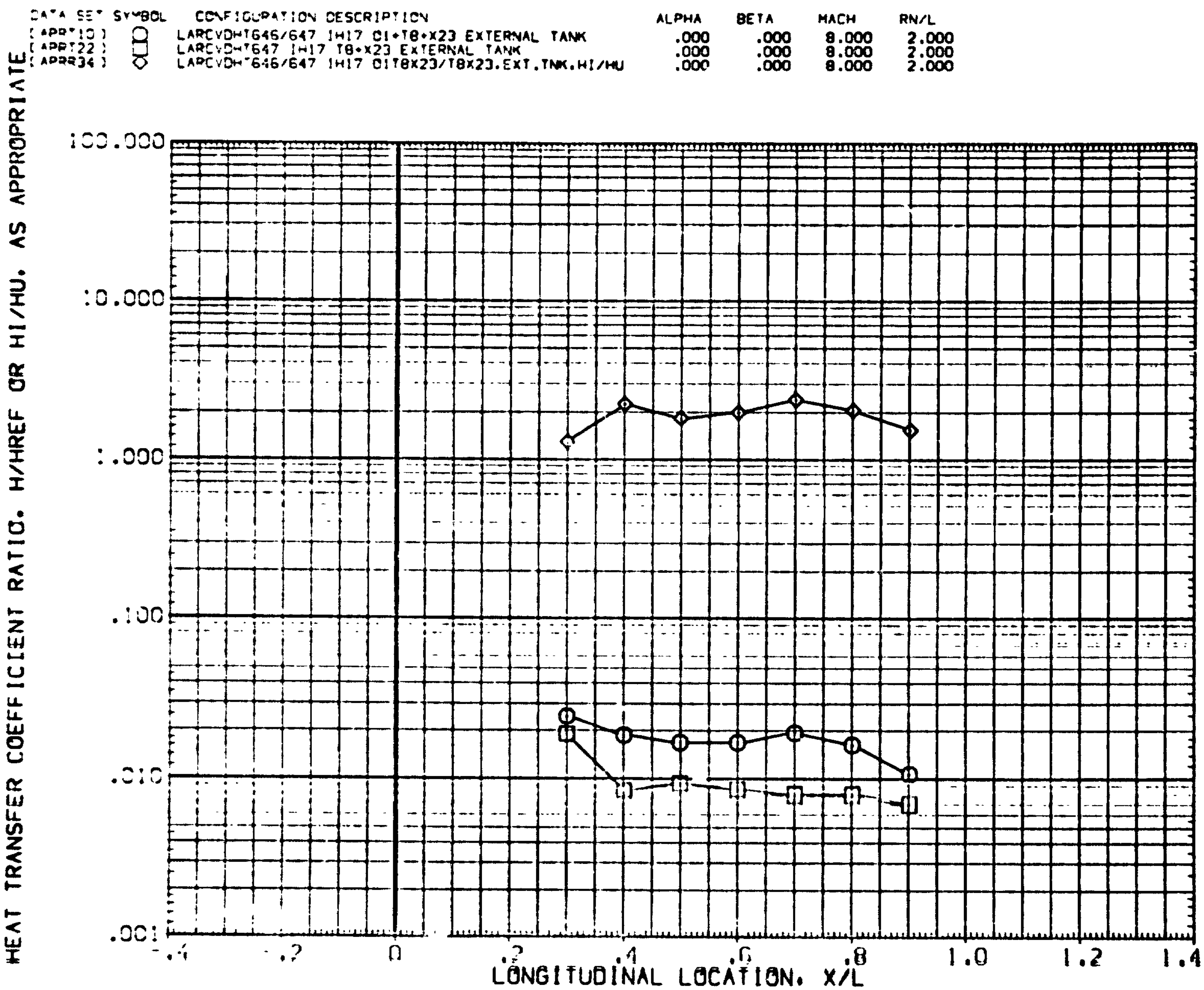


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 67.500

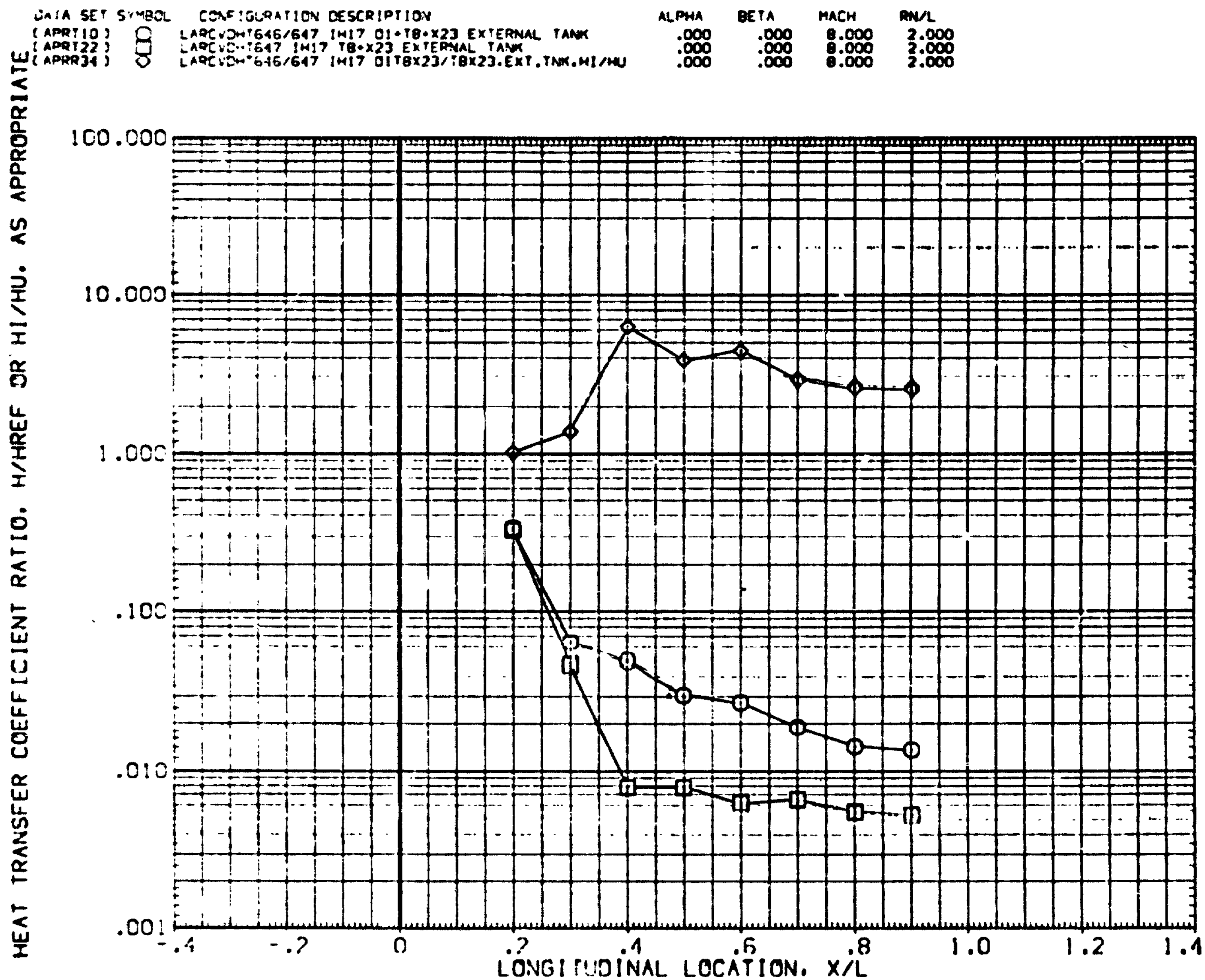


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 90.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
[illegible]	□	LARCVDH[illegible] [illegible] 01+T8+X23 EXTERNAL TANK	.000	.000	8.000	2.000
[illegible]	○	[illegible] T8+X23 EXTERNAL TANK	.000	.000	8.000	2.000
[illegible]	◇	LARCVDH1646 647 [illegible] 01T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	2.000

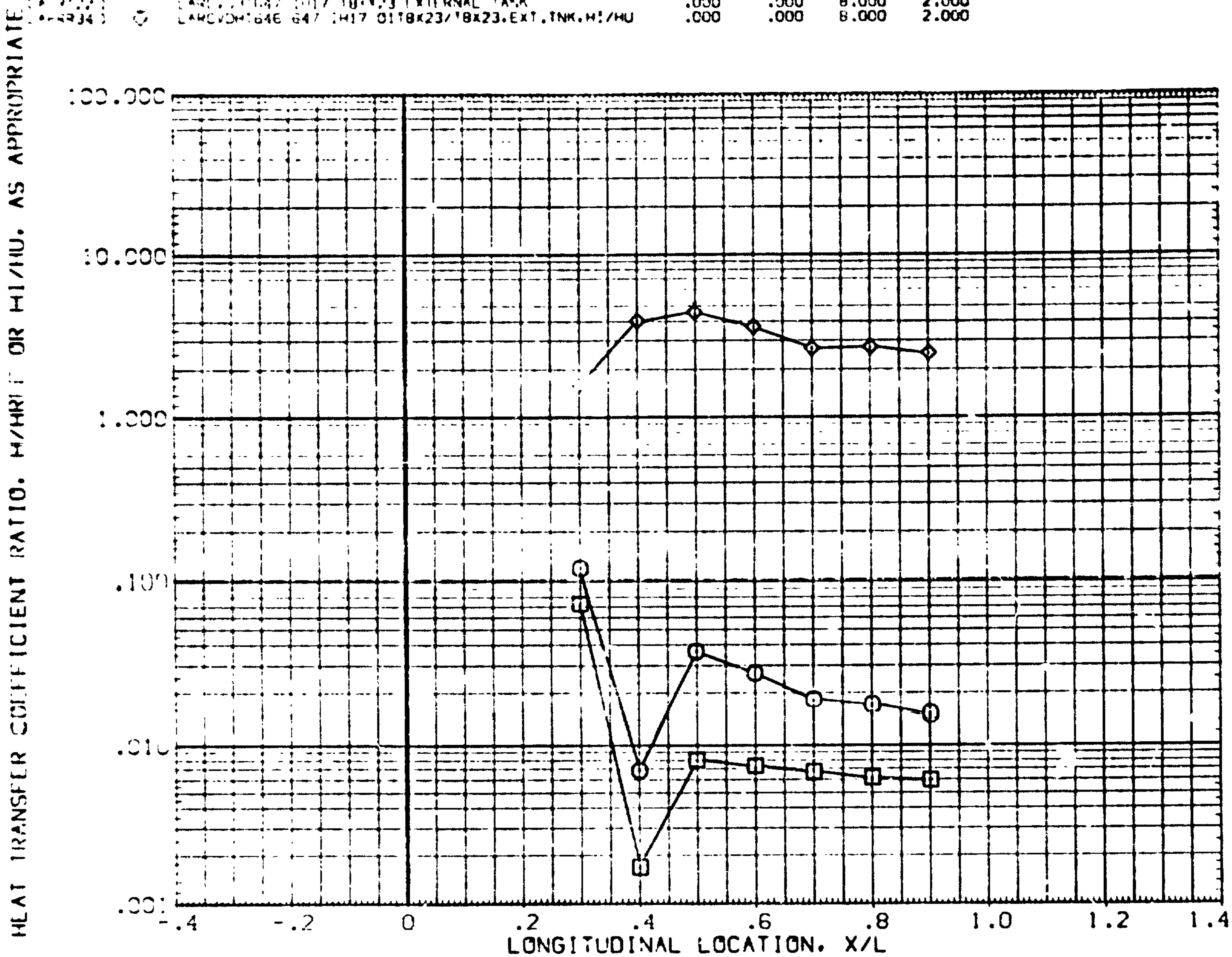


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

[illegible] .850 PHI = 112.500)

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT10)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	2.000
(APRT22)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	2.000
(APRR34)	◇	LARCVDHT646/647 IH17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	2.000

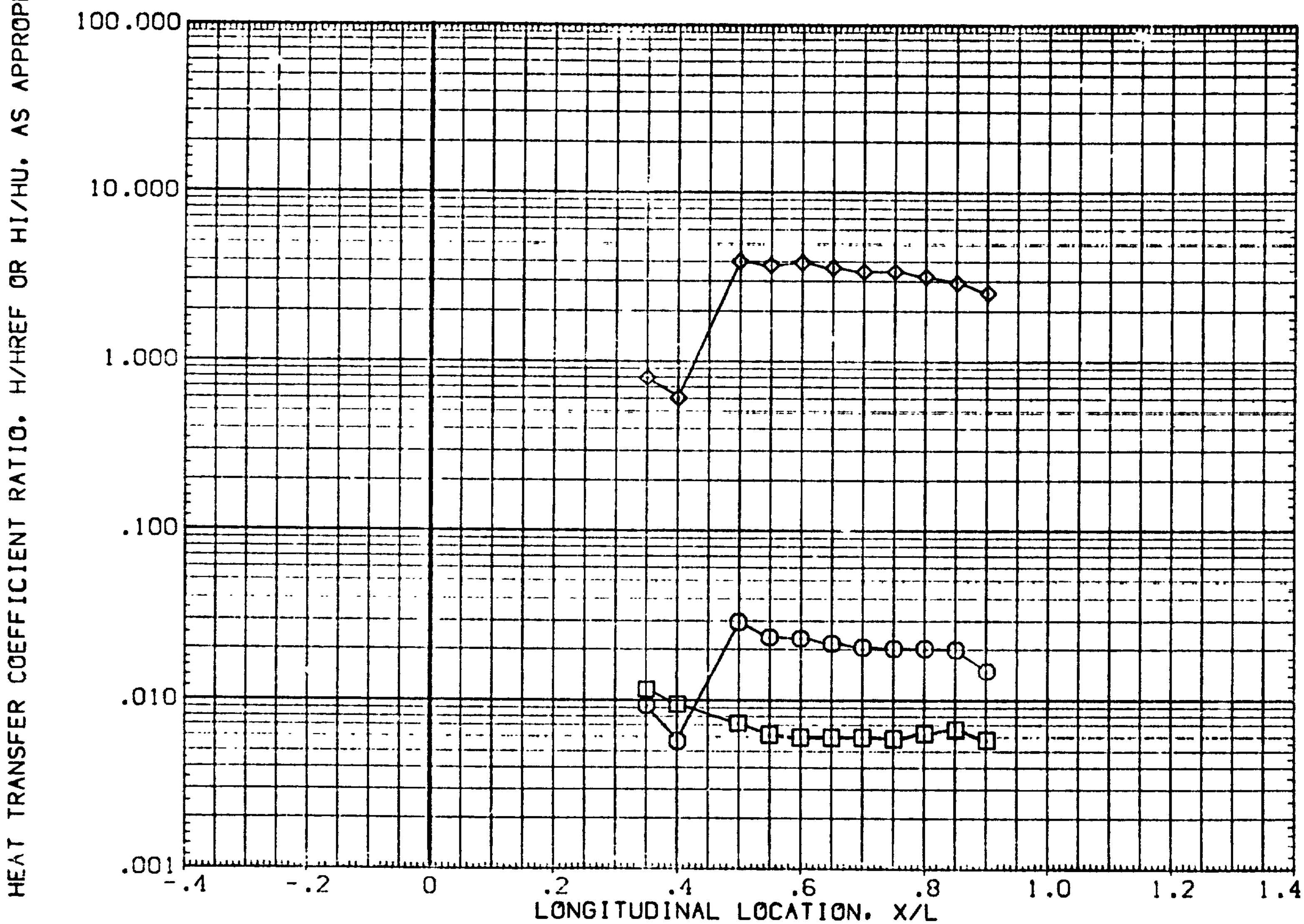


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 135.000

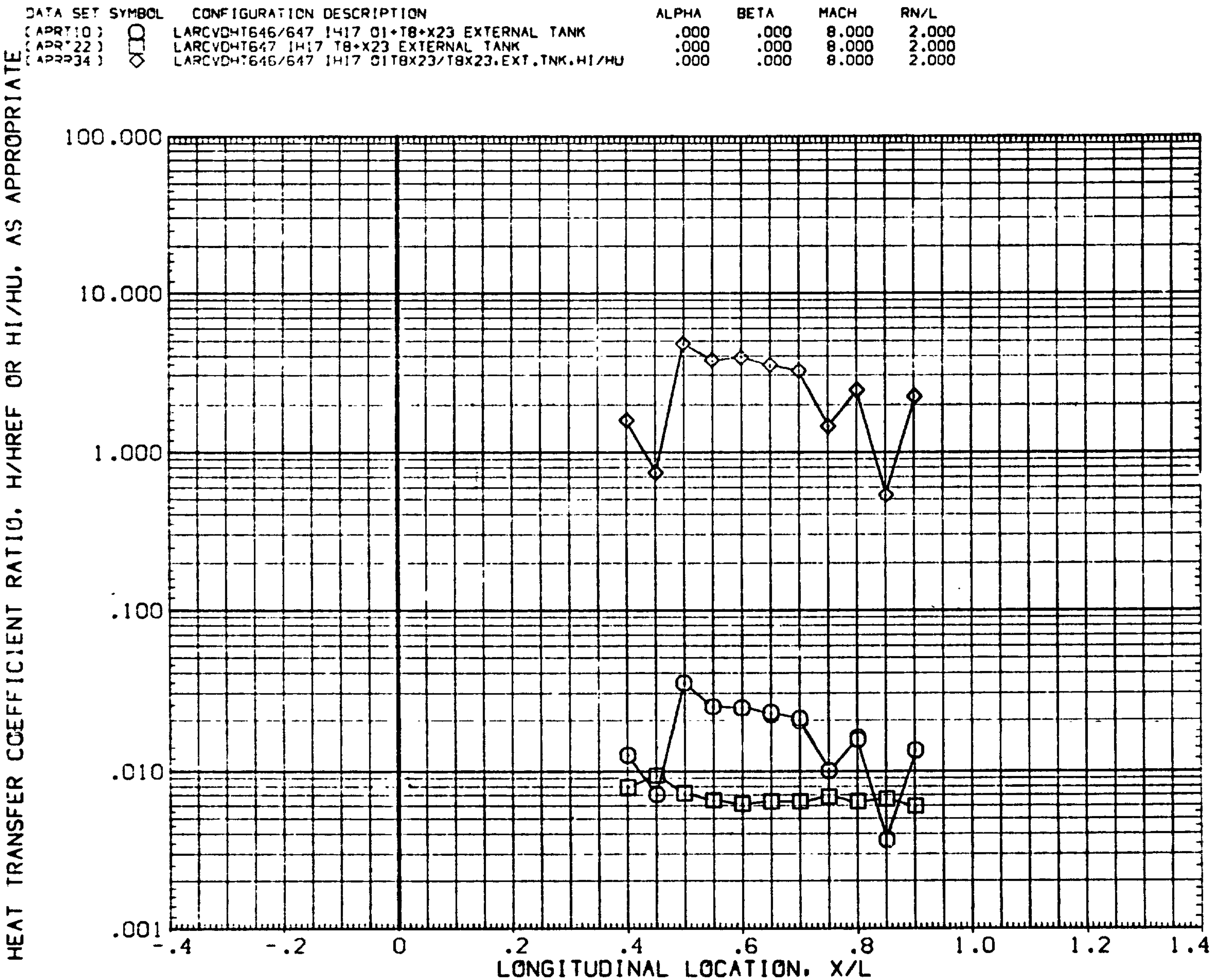


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 157.500

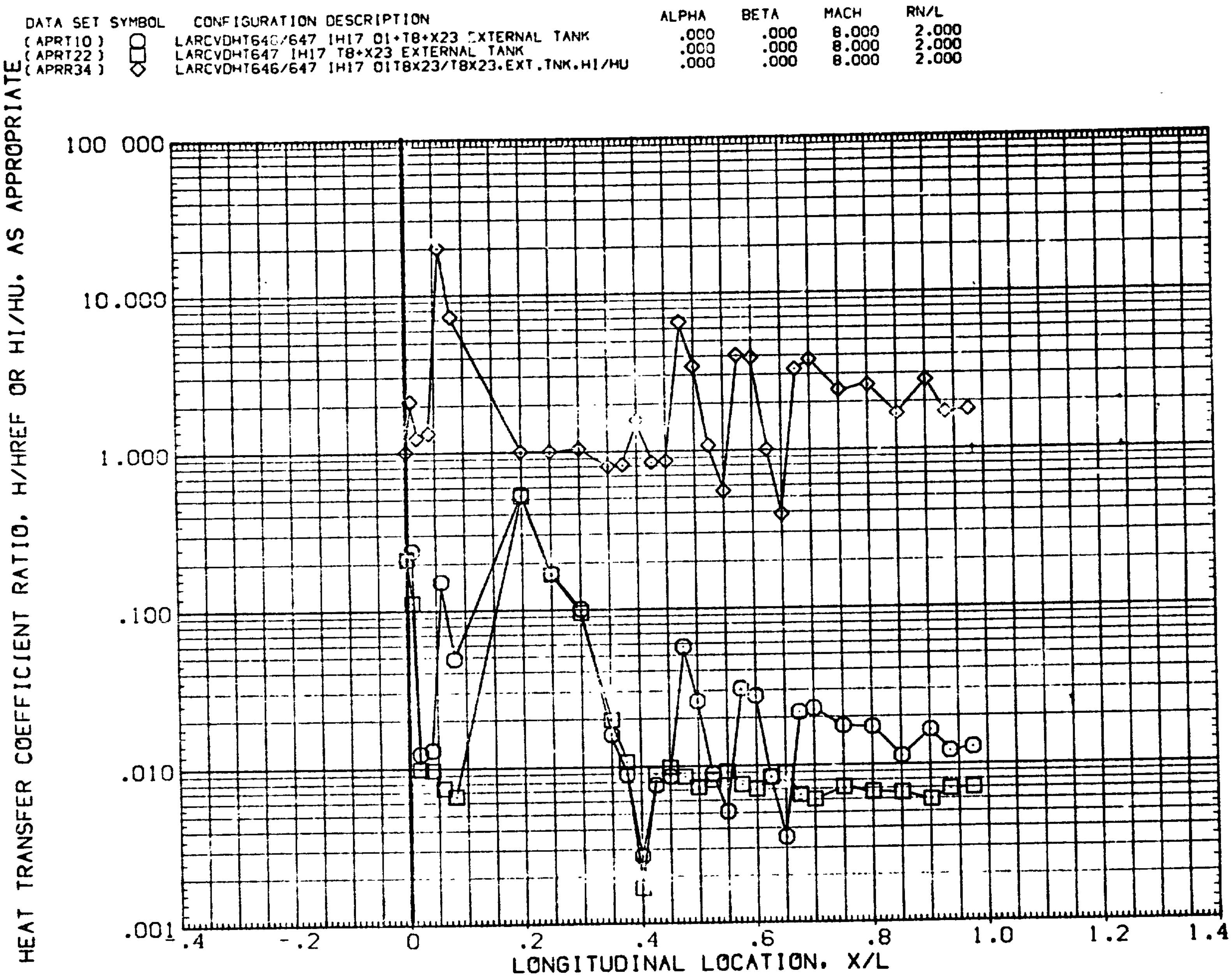


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .850 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT10)	○	LARC/OHT646/647 (H17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	2.000
(APRT22)	□	LARC/OHT647 (H17 T8+X23 EXTERNAL TANK	.000	.000	8.000	2.000
(APRR34)	◇	LARC/OHT646/647 (H17 O:T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	2.000

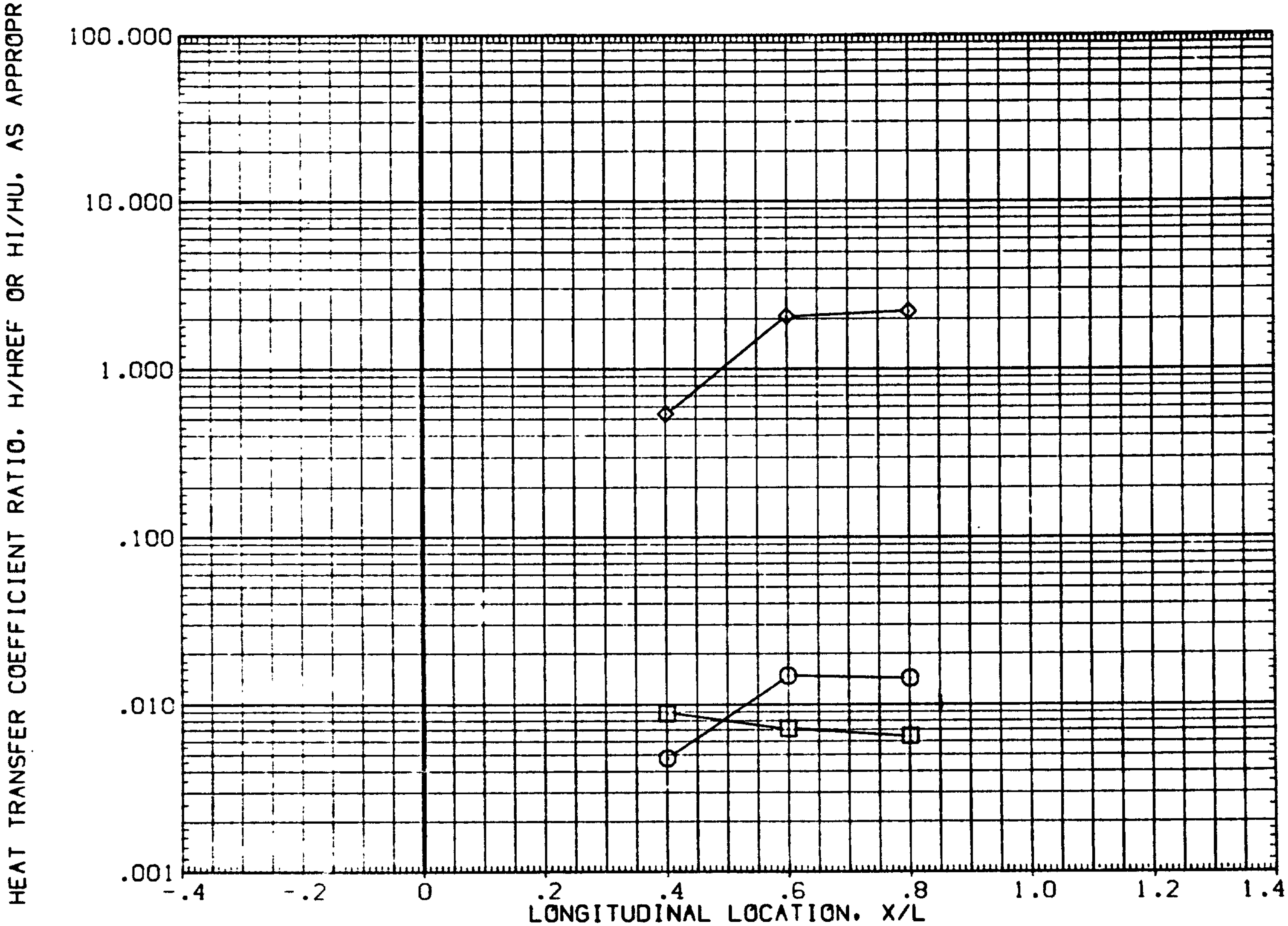


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = .000

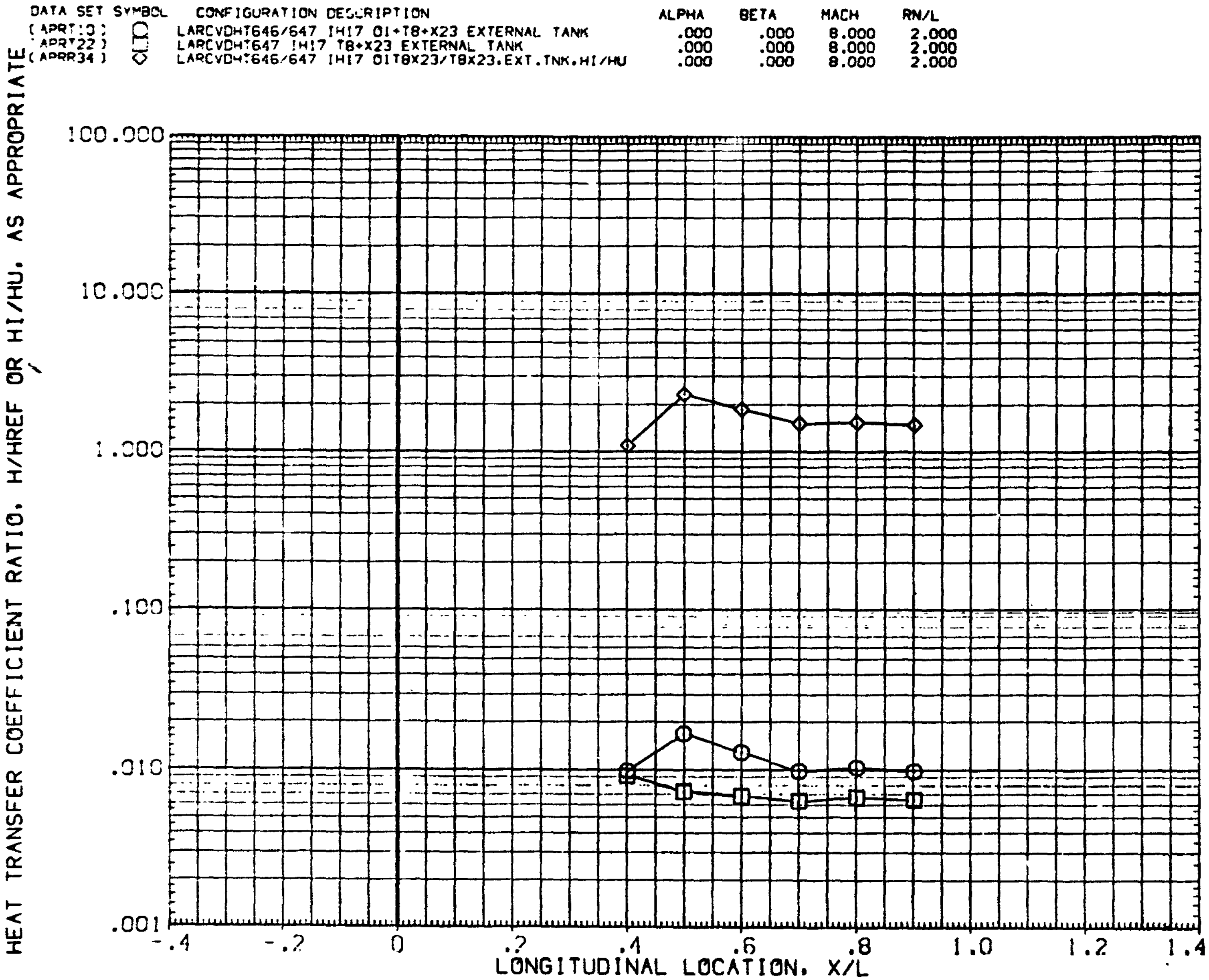


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 45.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APR710)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	2.000
(APR722)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	2.000
(APRR34)	◇	LARCVDHT646/647 IH17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	2.000

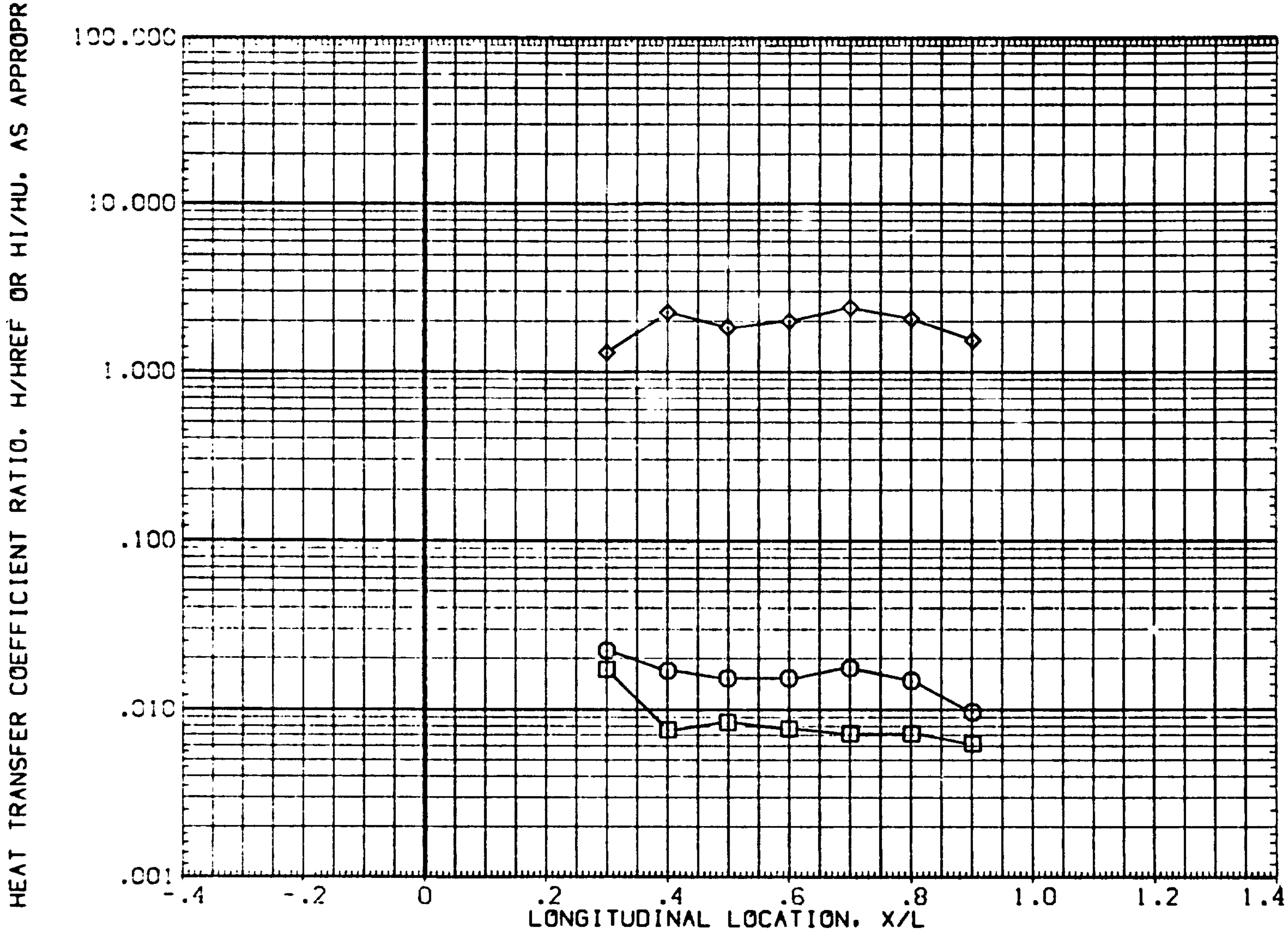


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 67.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT10)	○	LARCVDHT646/647 IH17 OI+T8+X23 EXTERNAL TANK	.000	.000	8.000	2.000
(APRT22)	□	LARCVDHI647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	2.000
(APRR34)	◇	LARCVDHT646/647 IH17 OIT8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	2.000

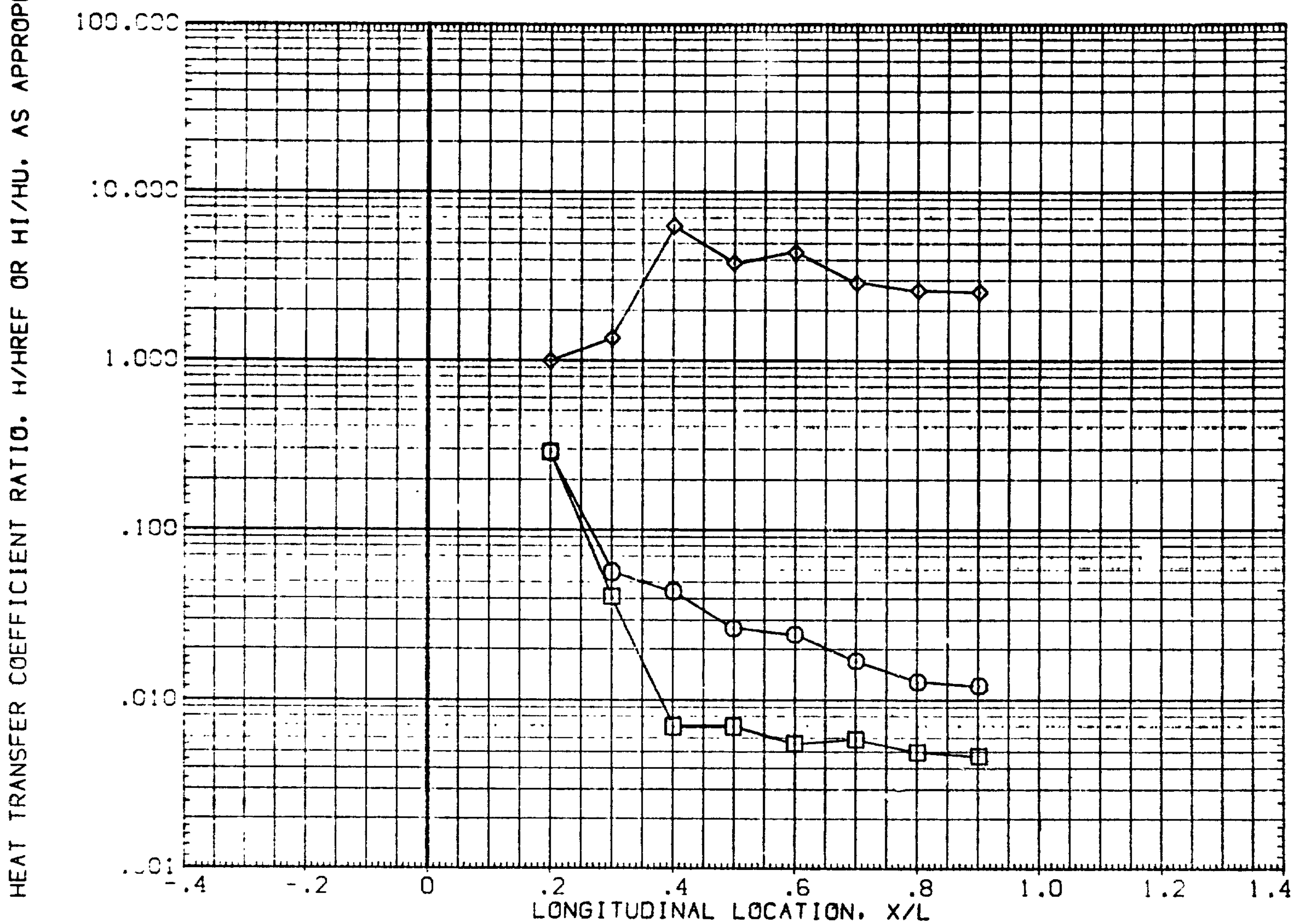


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA- 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 90.000

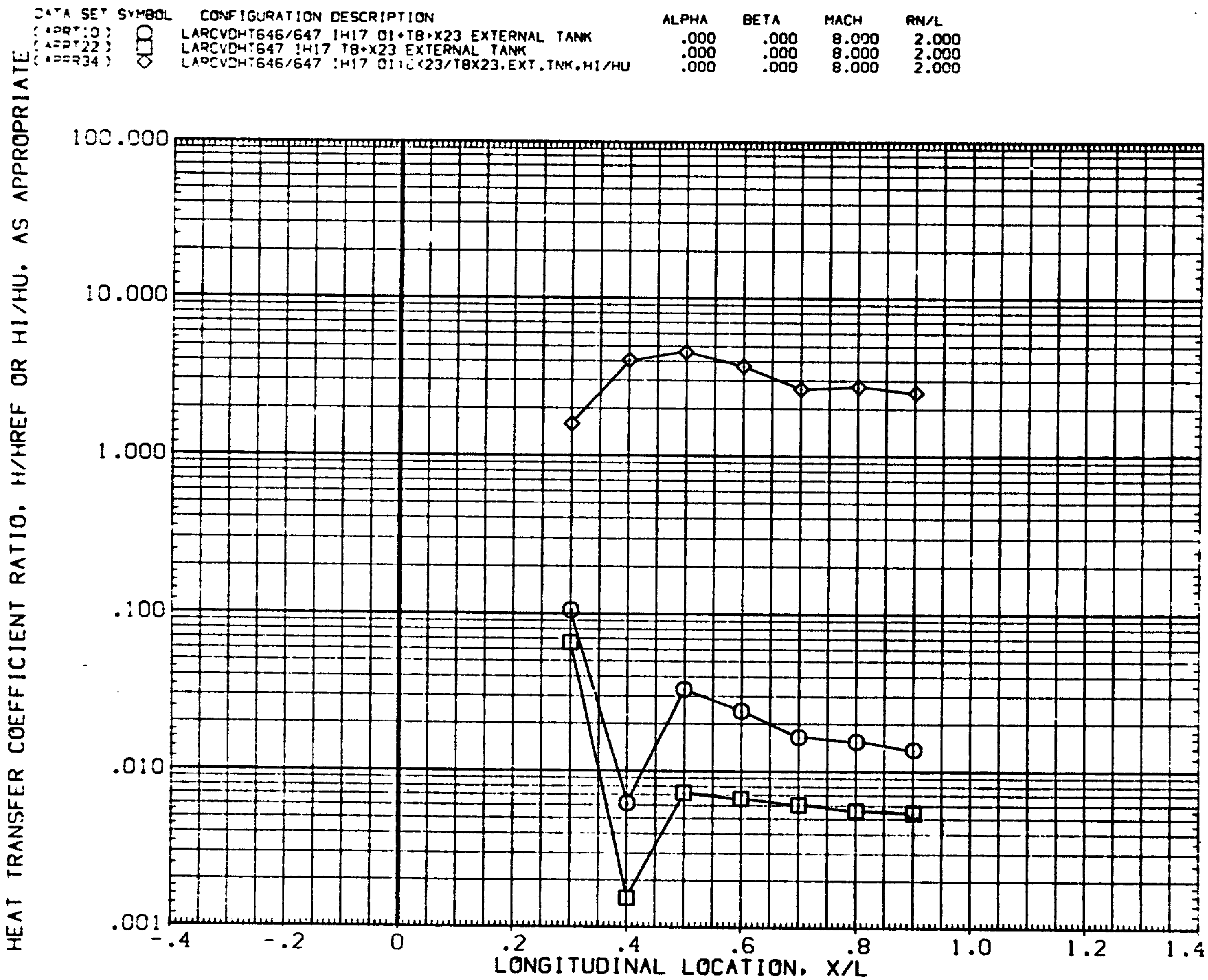


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 112.500

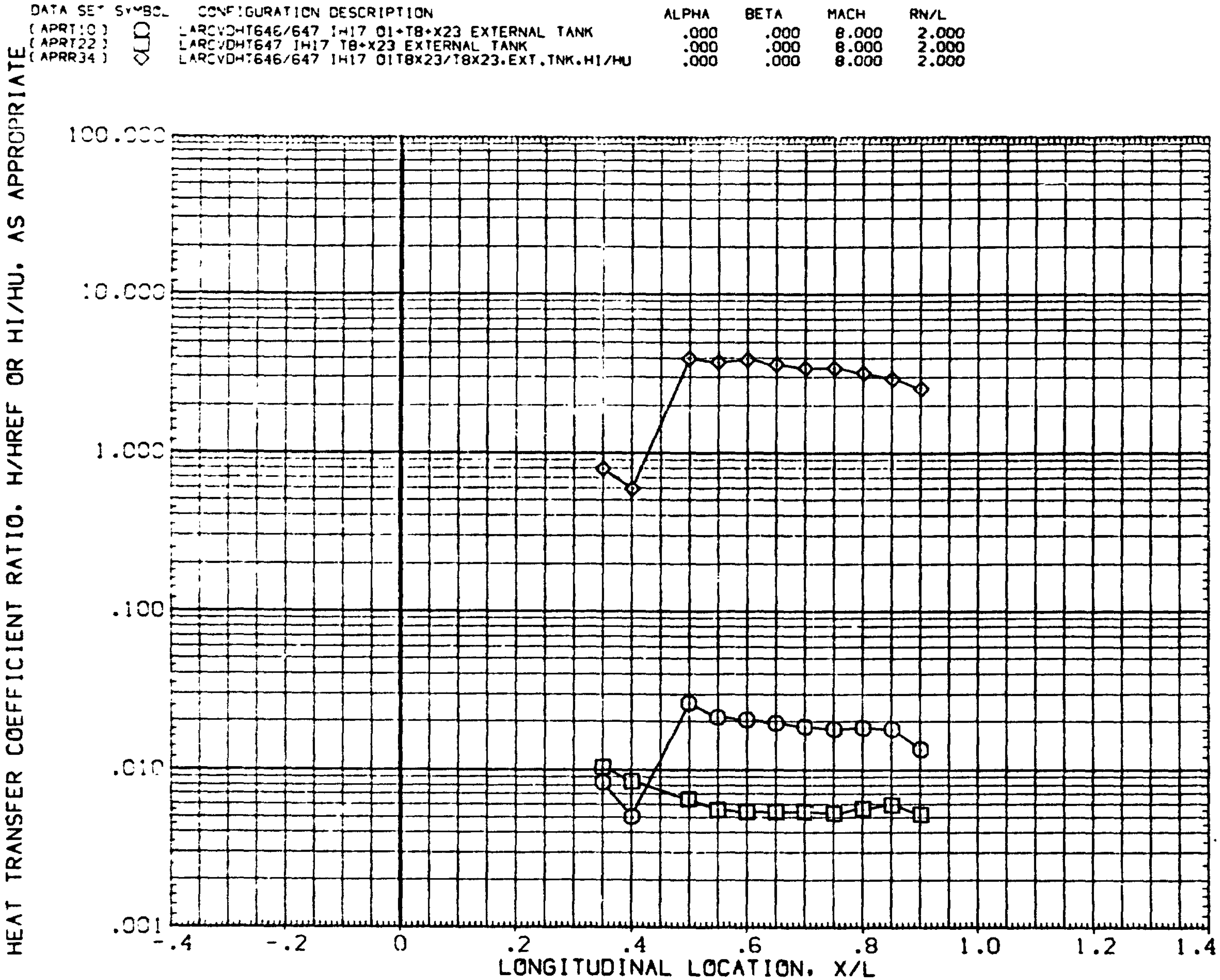


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 135.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT10)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	2.000
(APRT22)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	2.000
(APRR34)	◇	LARCVDHT646/647 IH17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	2.000

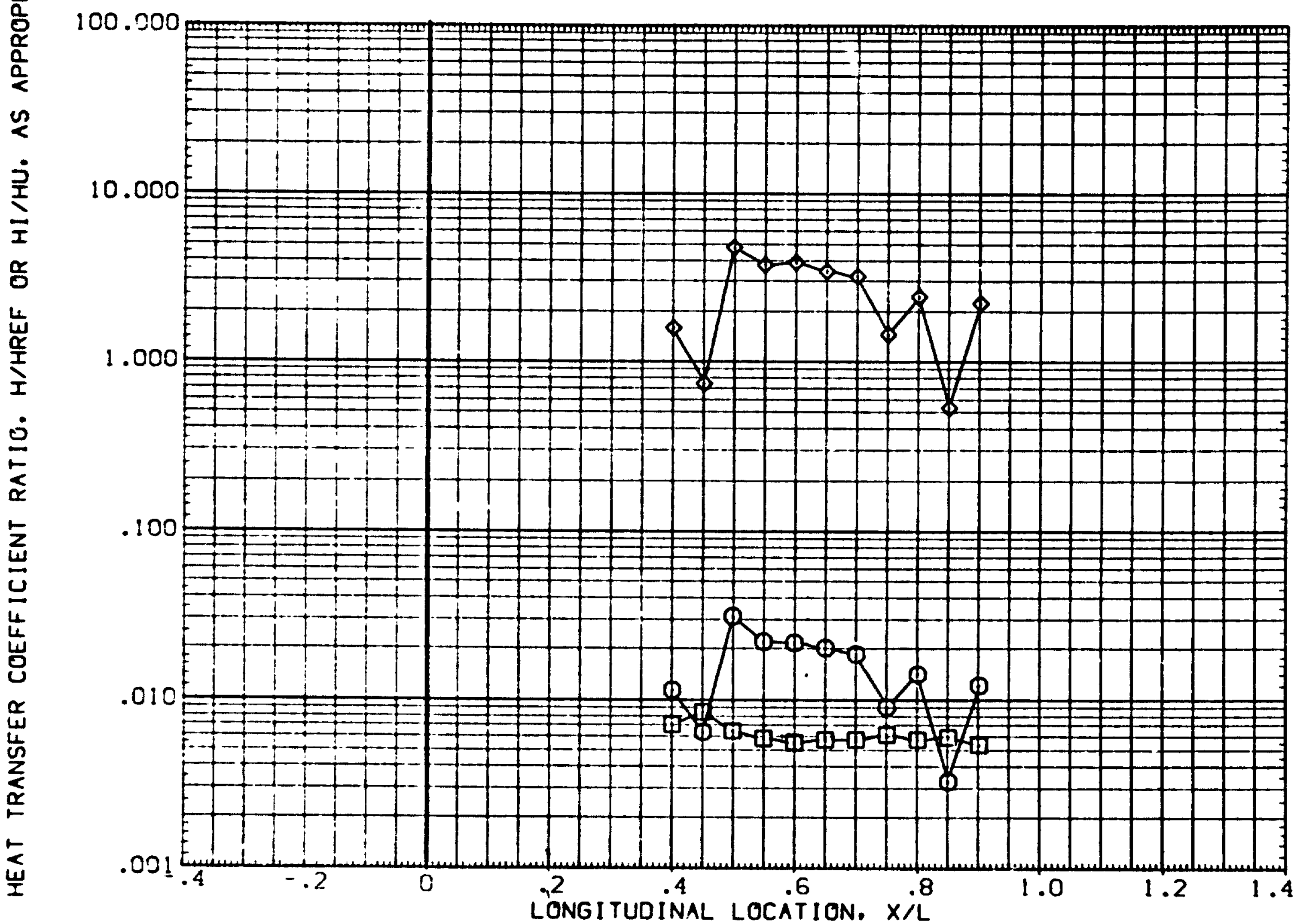


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 157.500

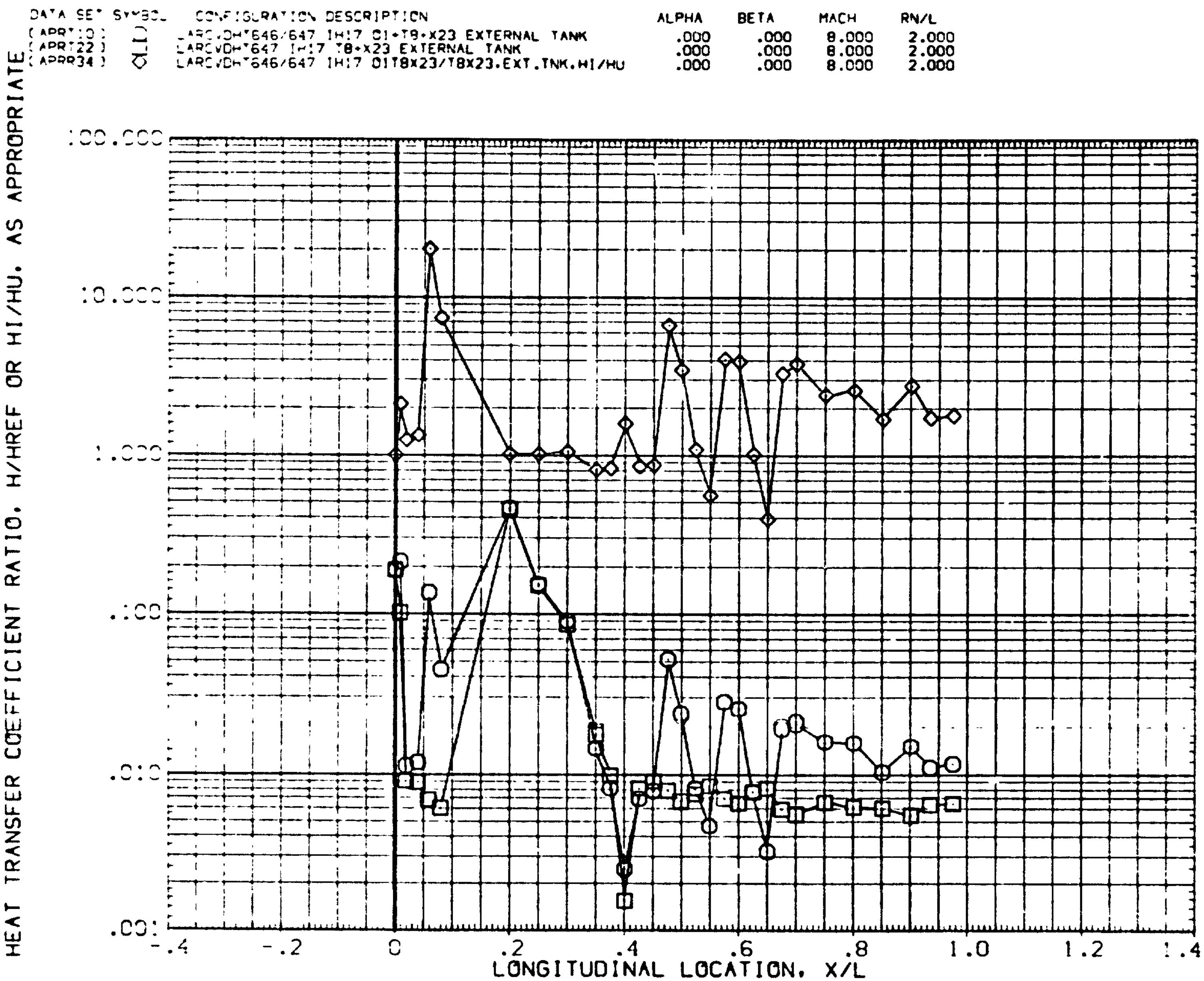


FIG. 37 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=2.0, ALPHA= 0.0)

RN/L = 2.000 HAW/HT= .900 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT11)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	5.000
(APRT23)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	5.000
(APRR35)	◇	LARCVDHT646/647 IH17 OIT8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	5.000

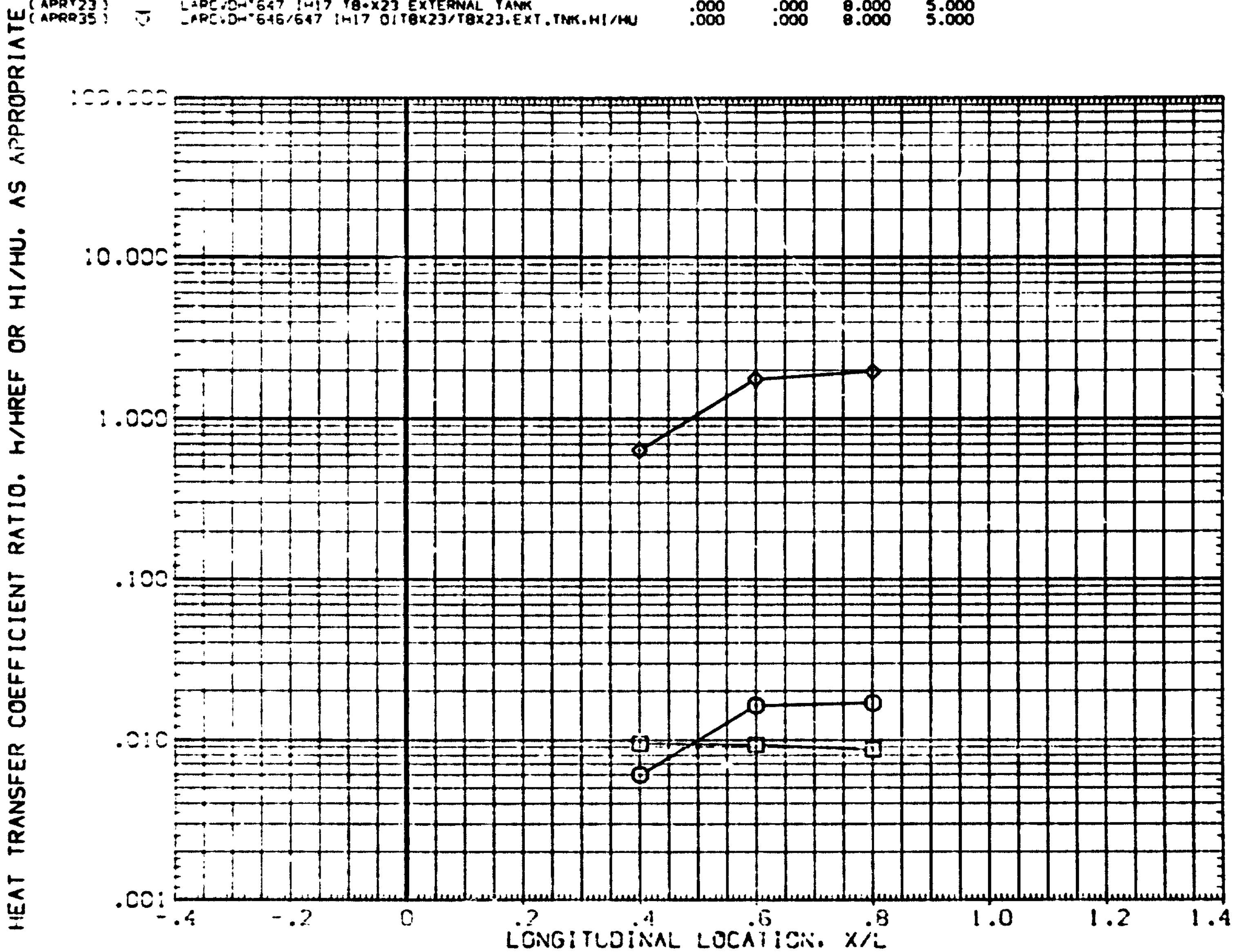


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = .000

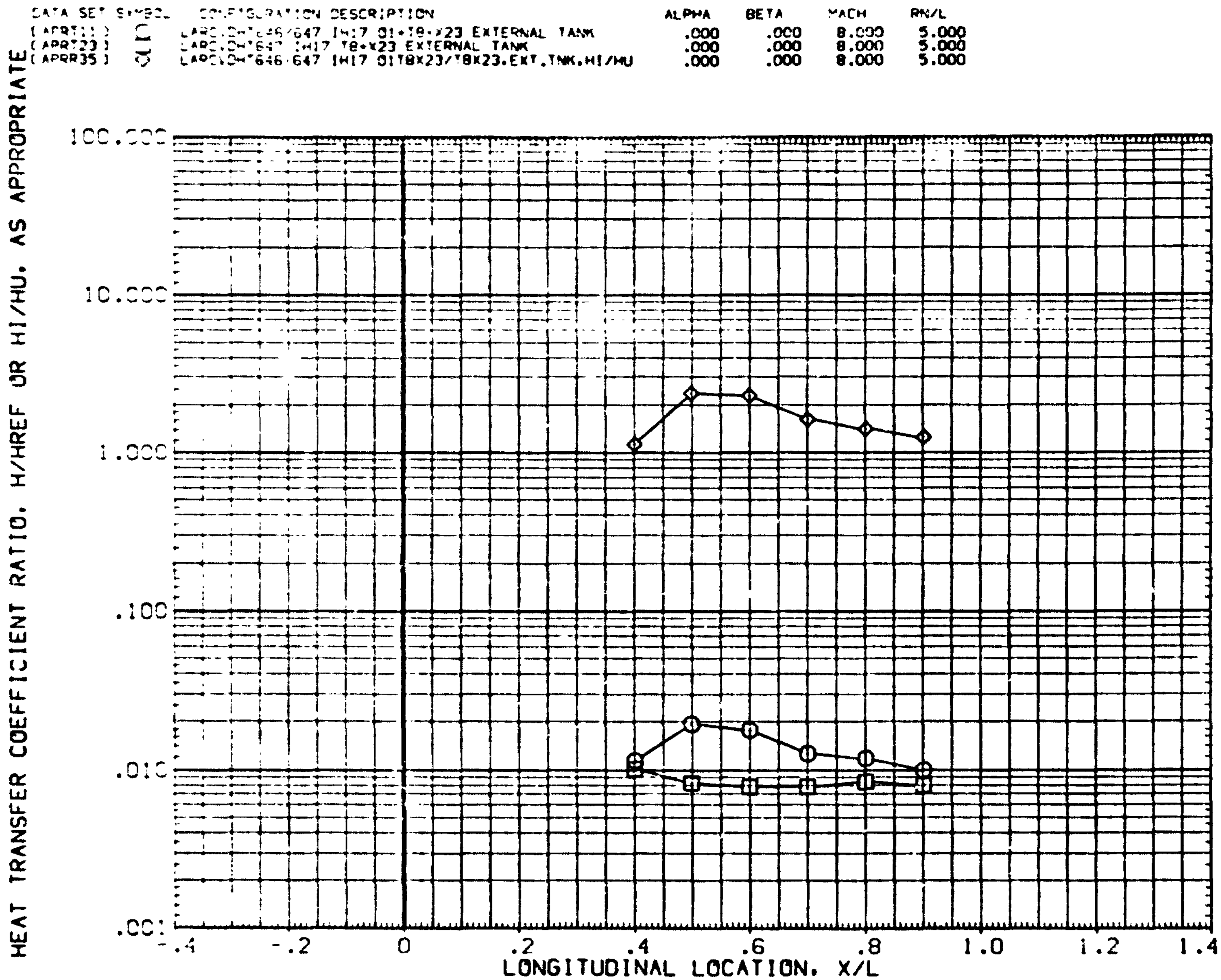


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 45.000

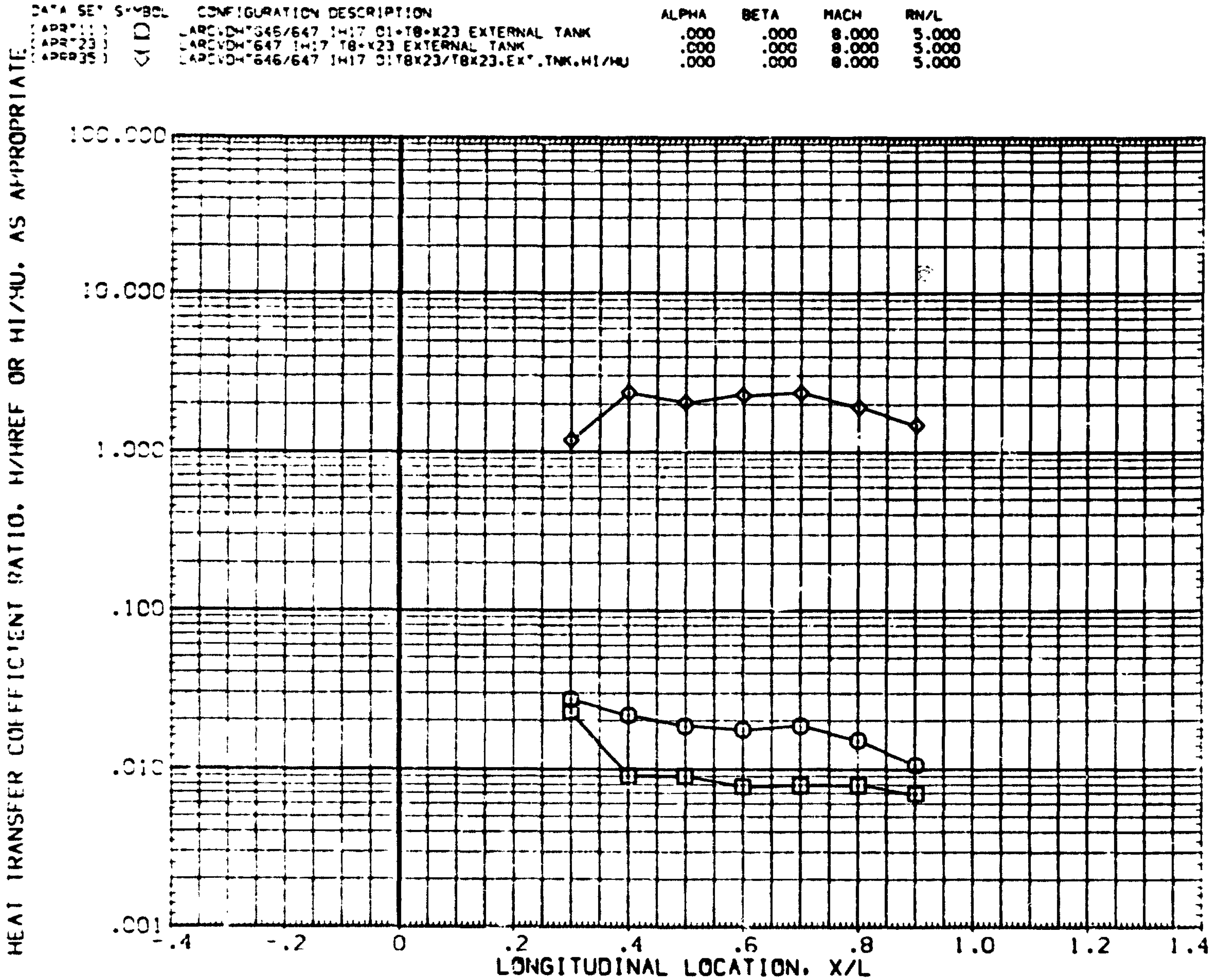


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .830 PHI = 67.500

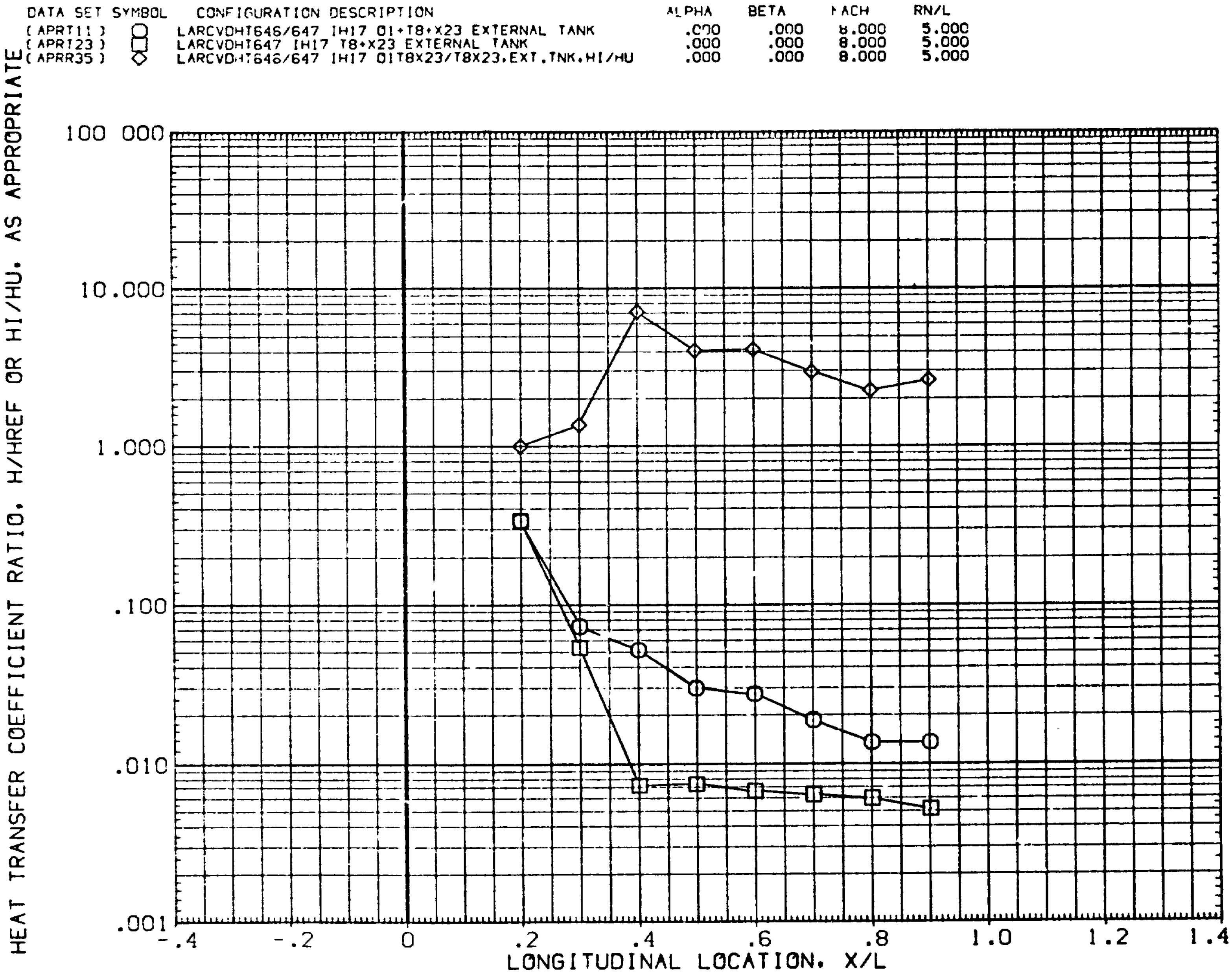


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 90.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT11)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	5.000
(APRT23)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	5.000
(APRR35)	◇	LARCVDHT646/647 IH17 C1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	5.000

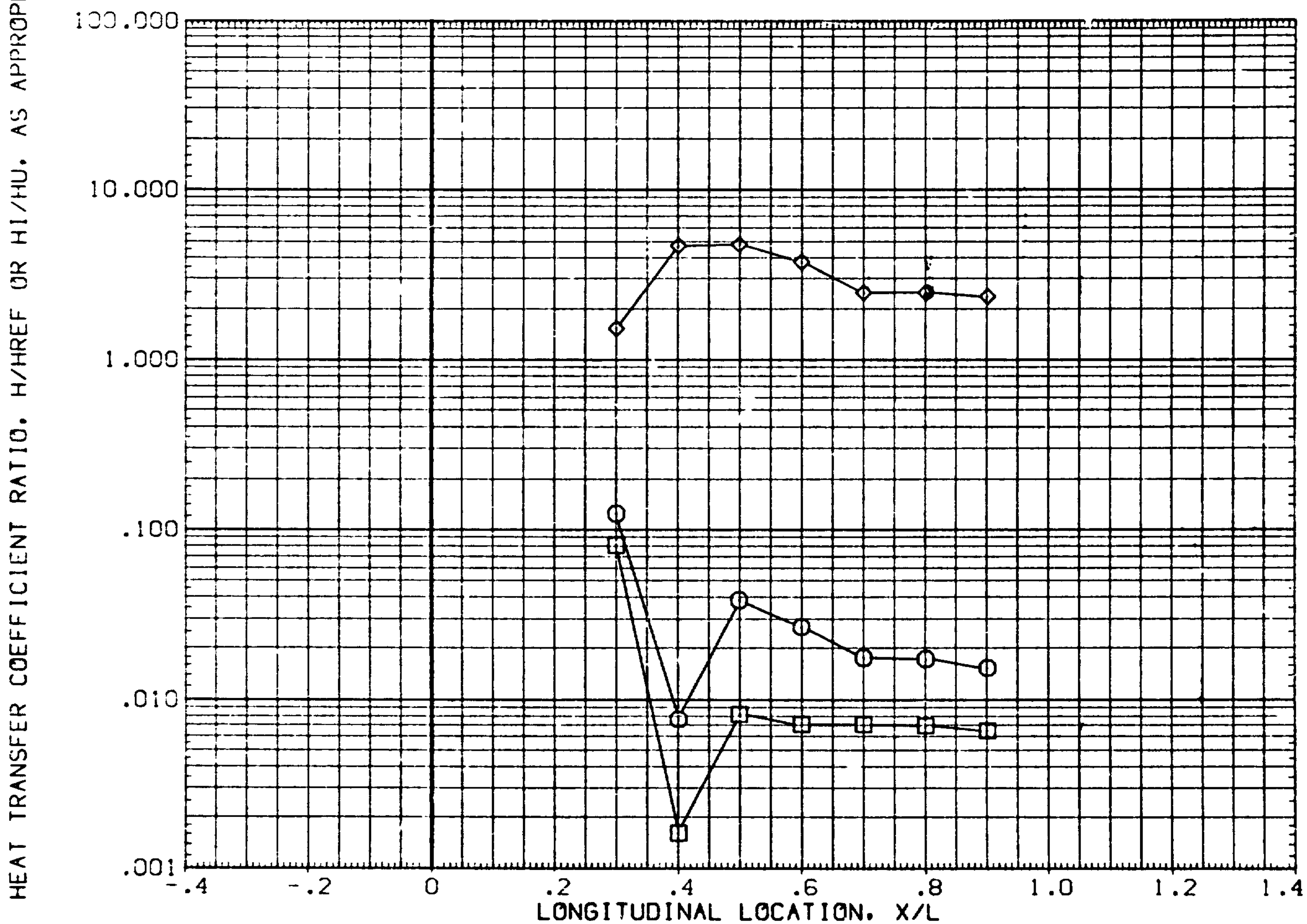


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 112.500

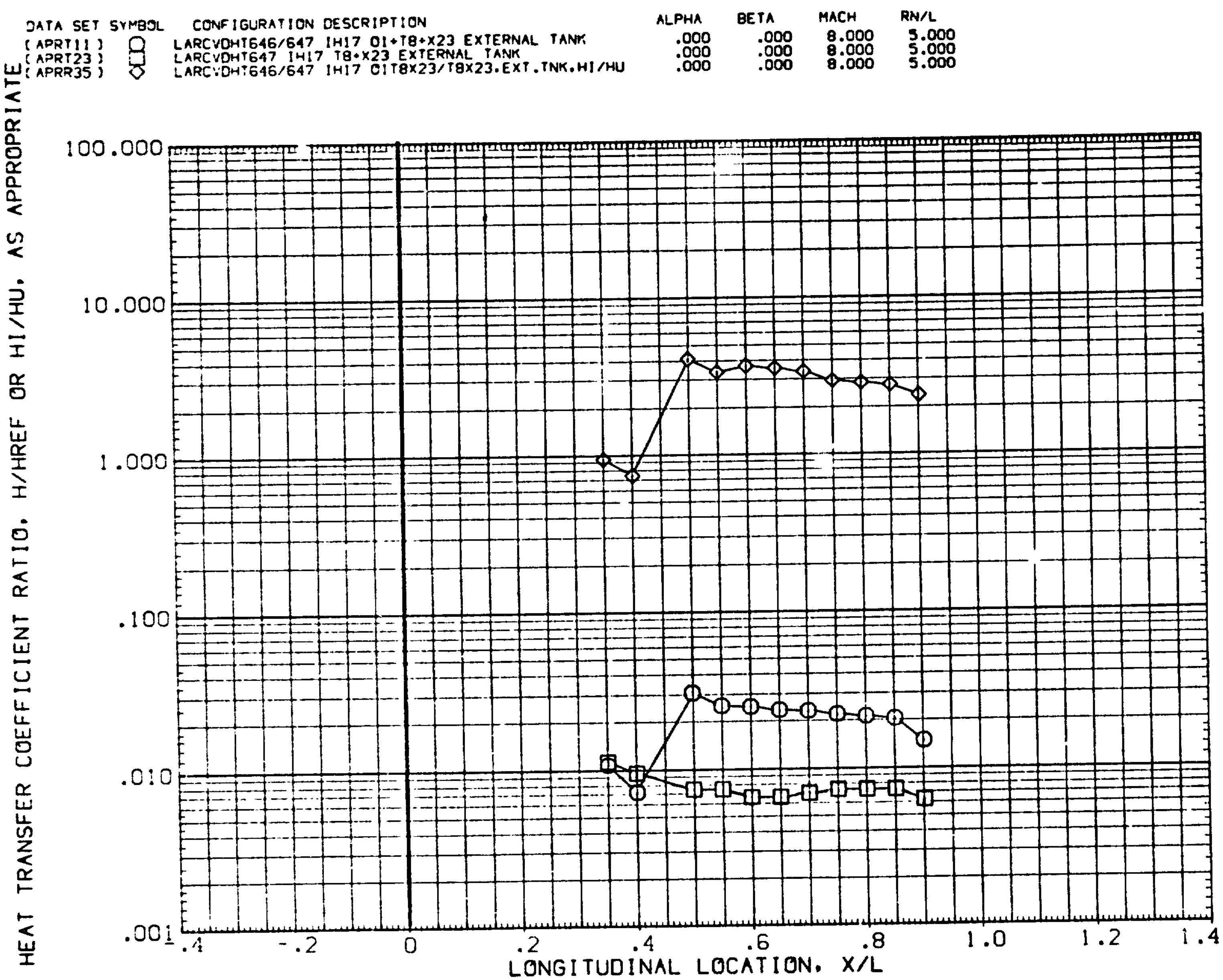


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 135.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT11)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	5.000
(APRT23)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	5.000
(APRR35)	◇	LARCVDHT646/647 IH17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	5.000

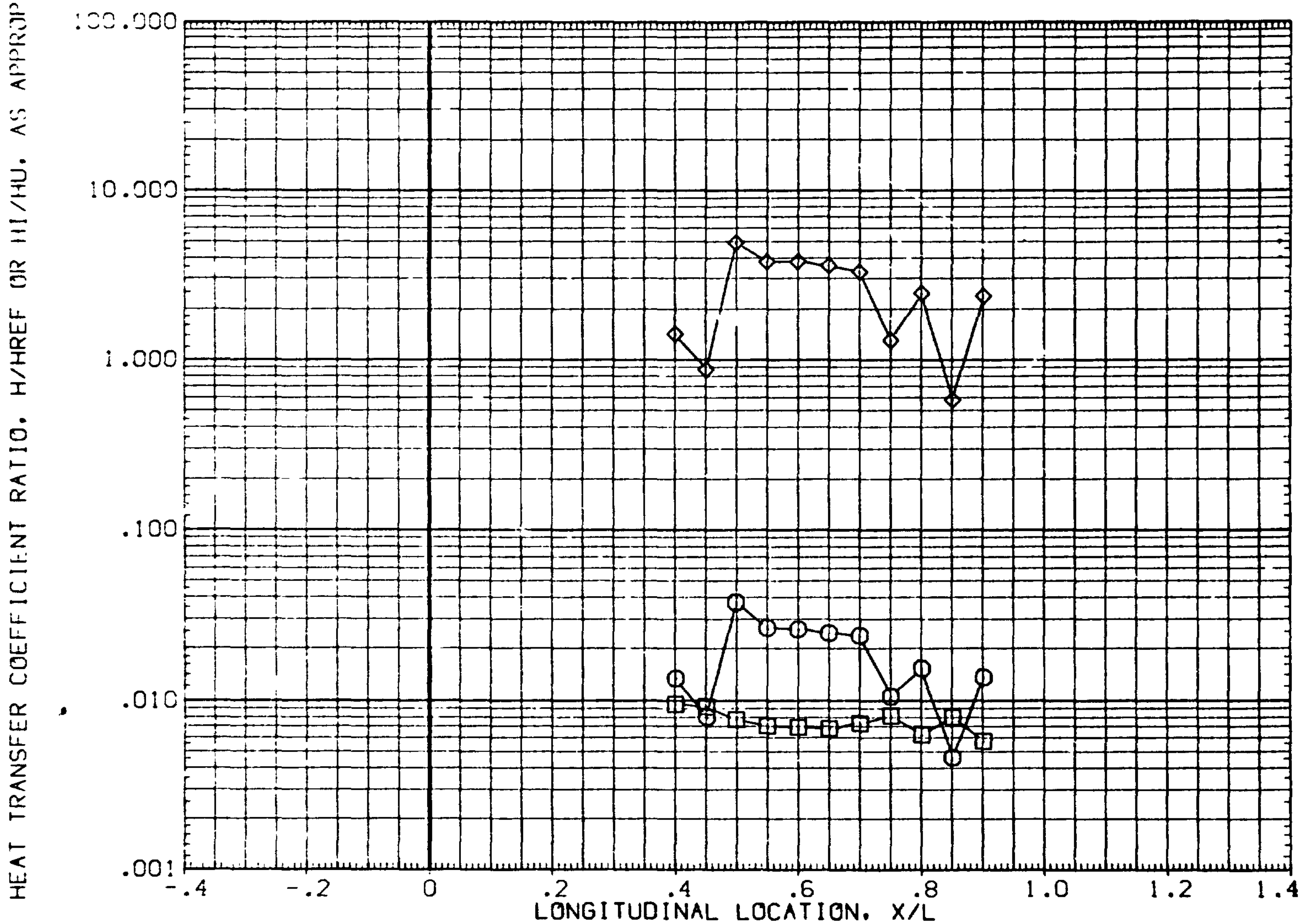


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 157.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT11)	○	LARCVDHT646/647 IH17 C1+T8+X23 EXTERNAL TANK	.000	.000	8.000	5.000
(APRT23)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	5.000
(APRR35)	◇	LARCVDHT646/647 IH17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	5.000

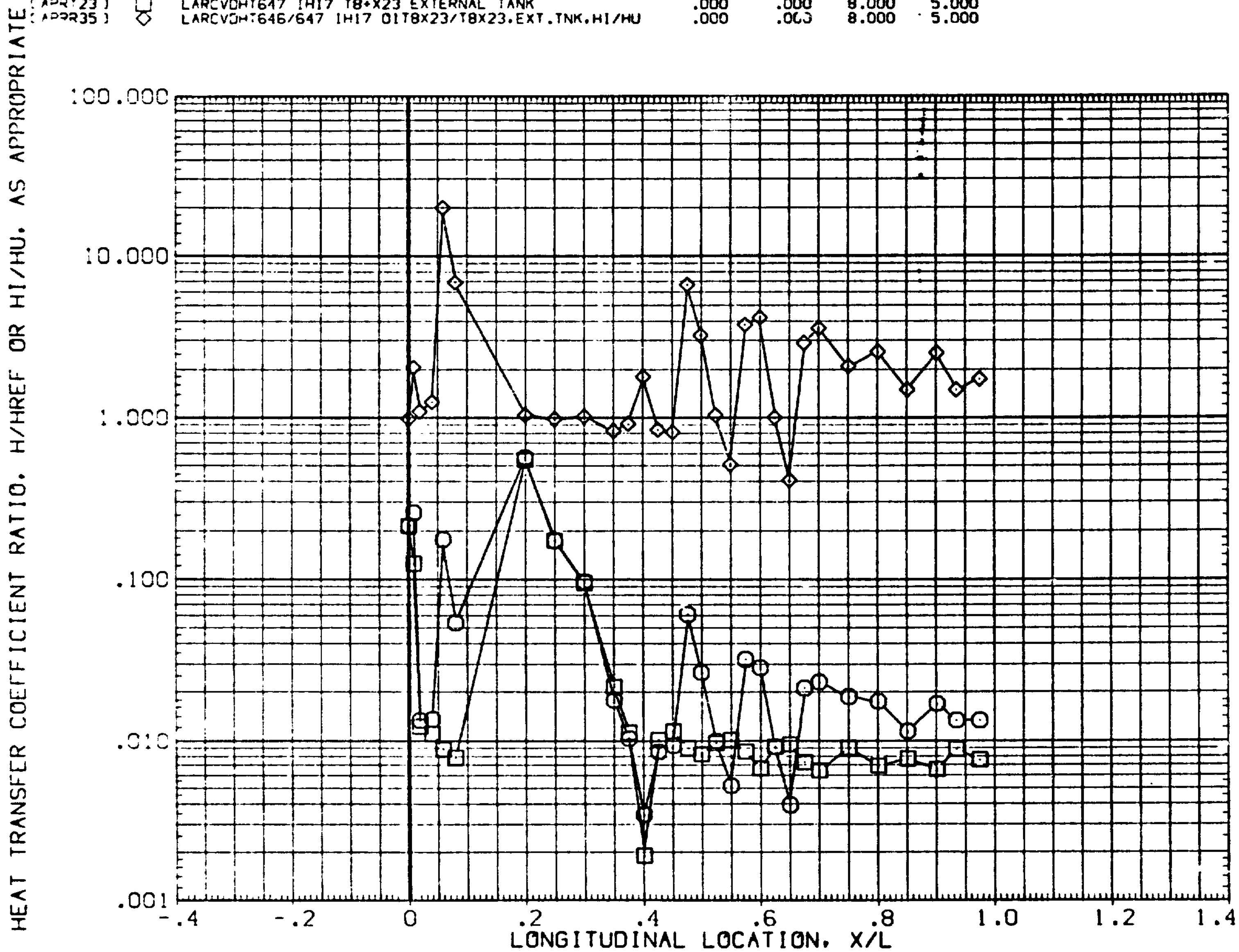


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .850 PHI = 180.000

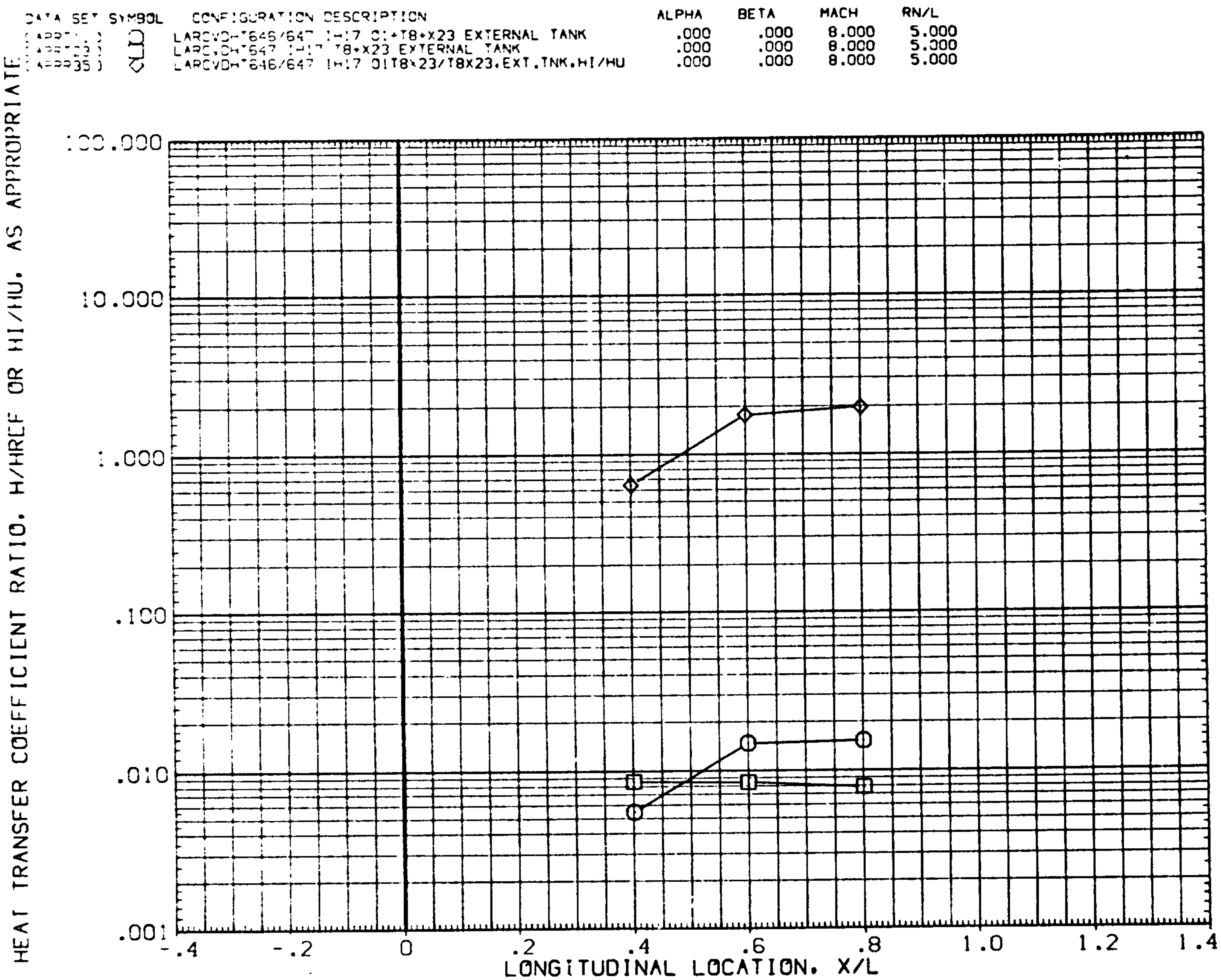


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 PHI = .000

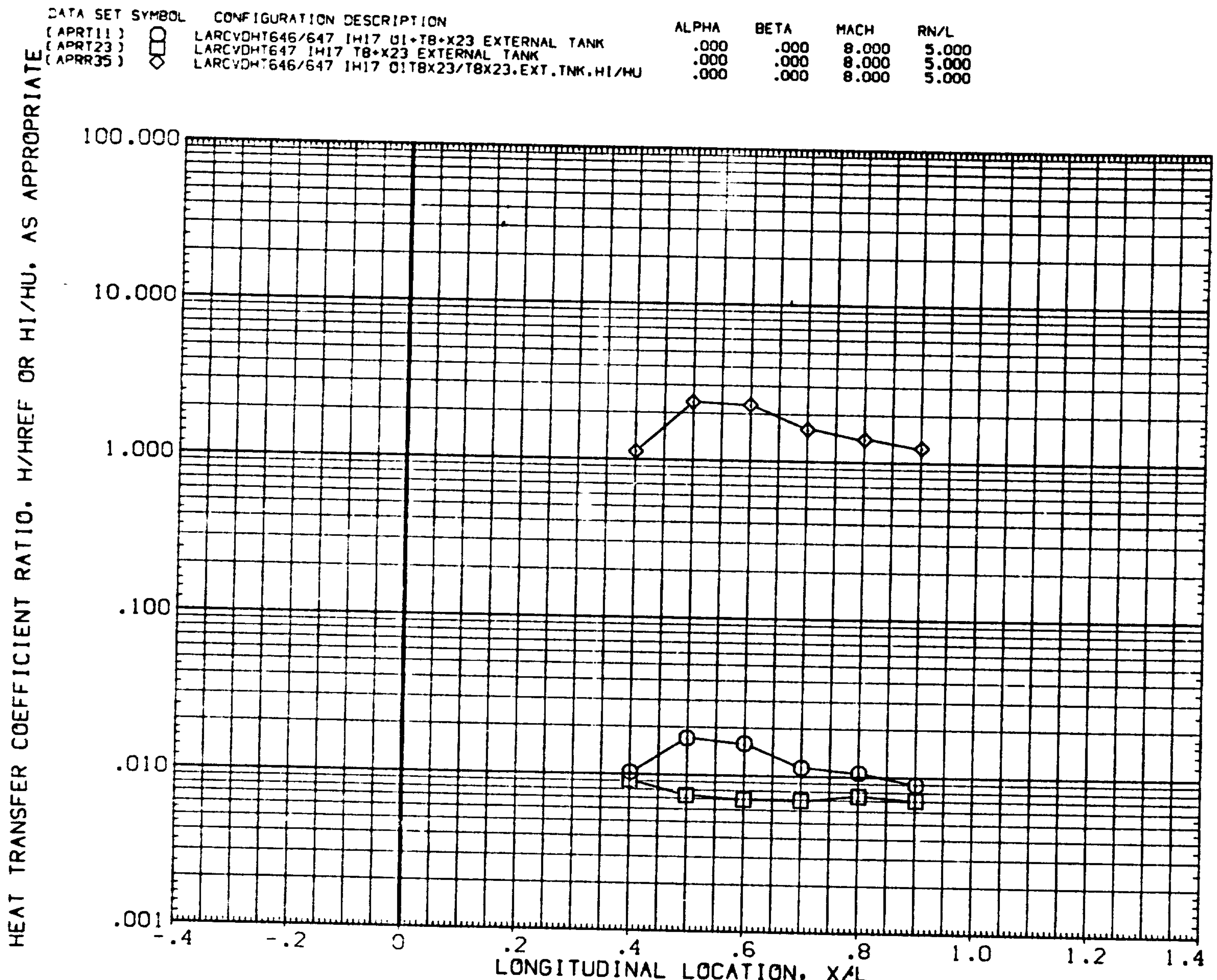


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 PHI = 45.000

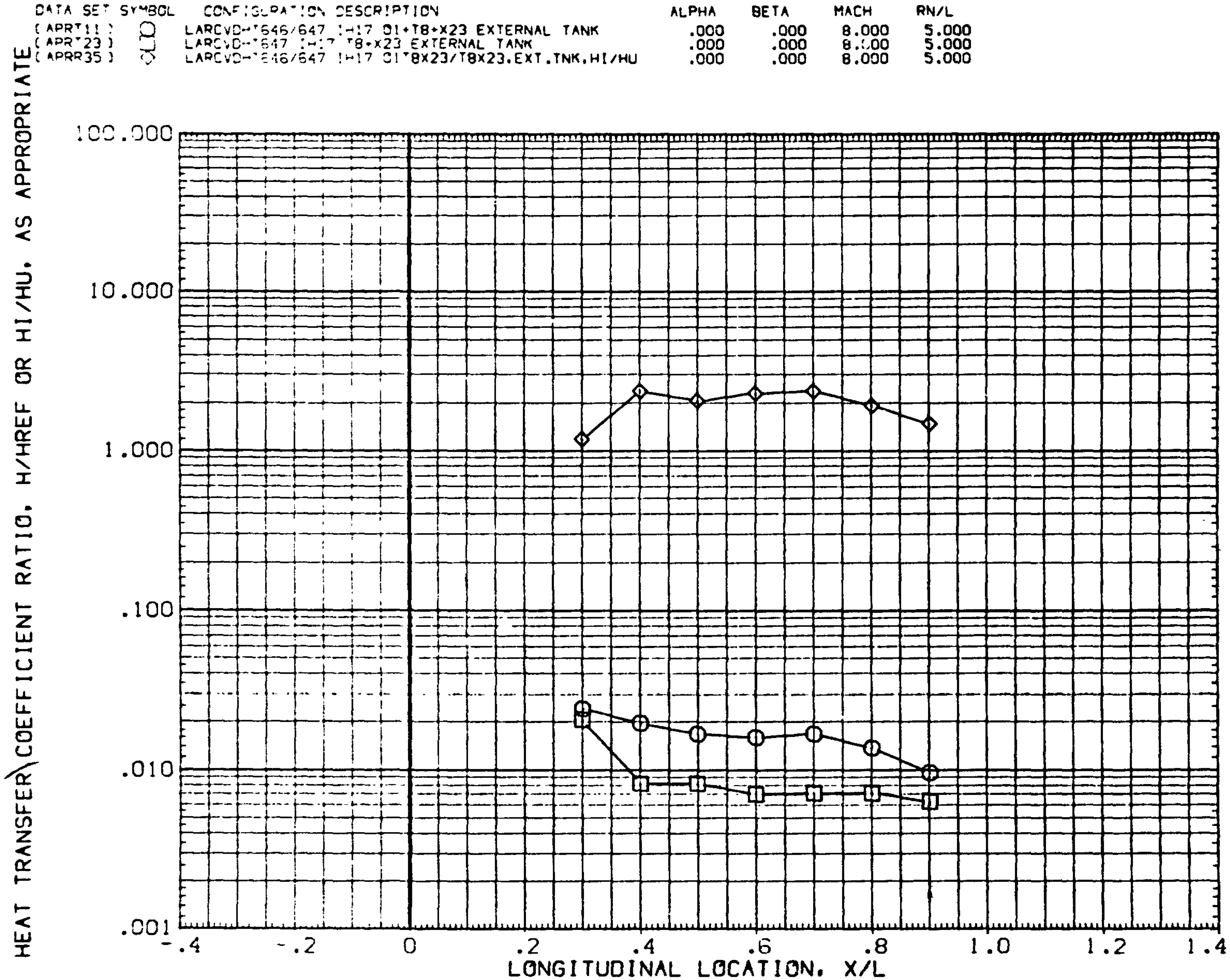


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 PHI = 67.500

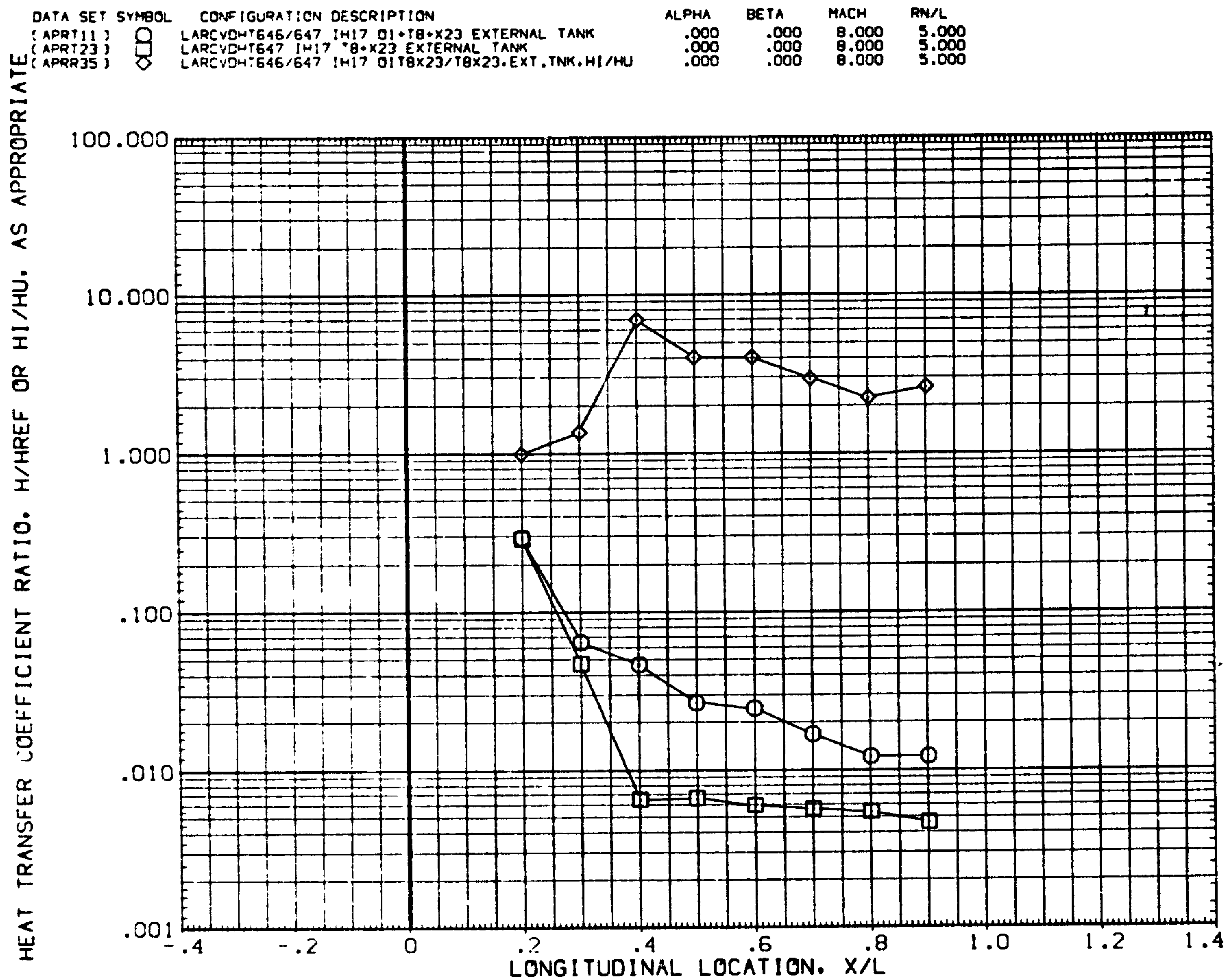


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 PHI = 90.000

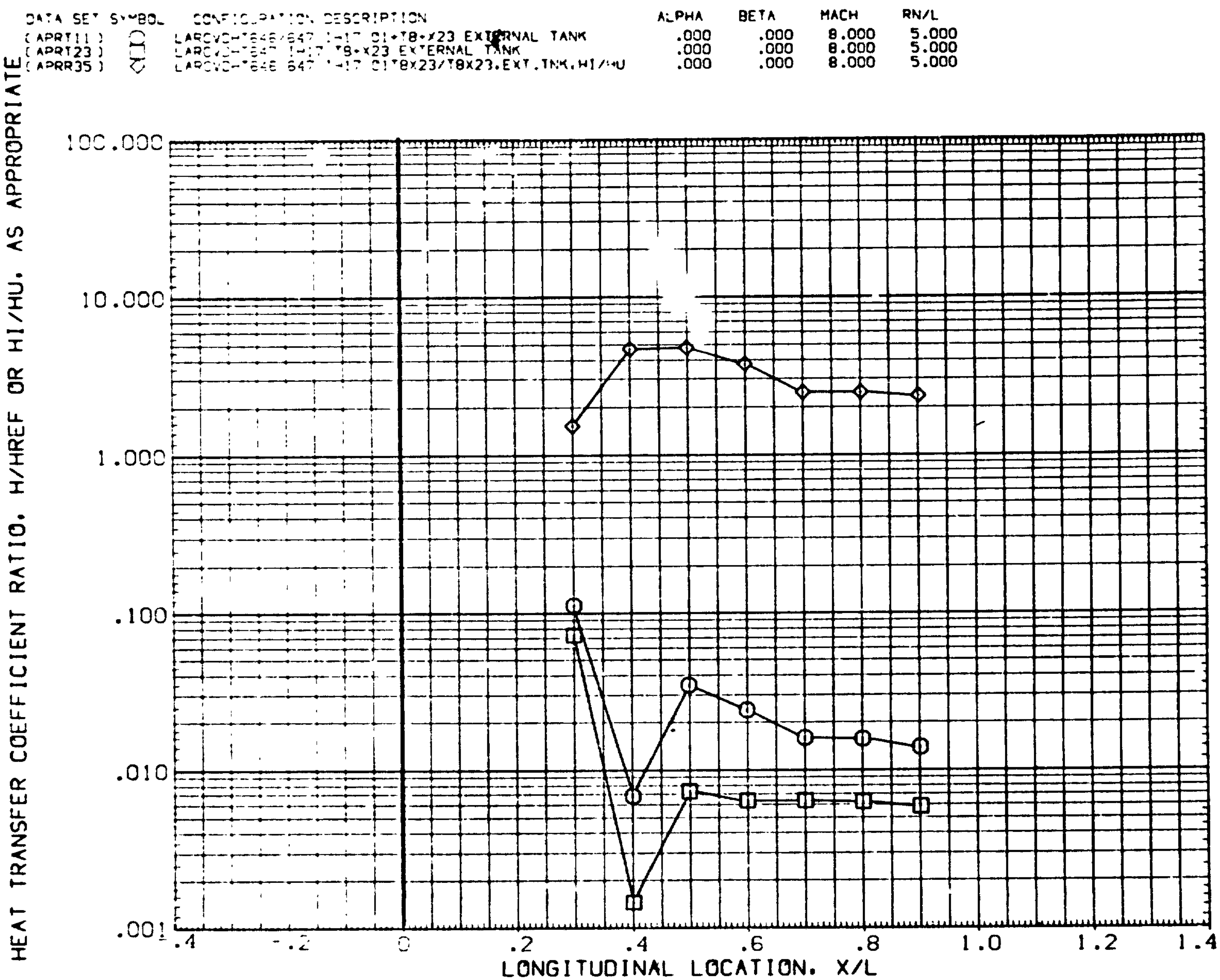


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 PHI = 112.500

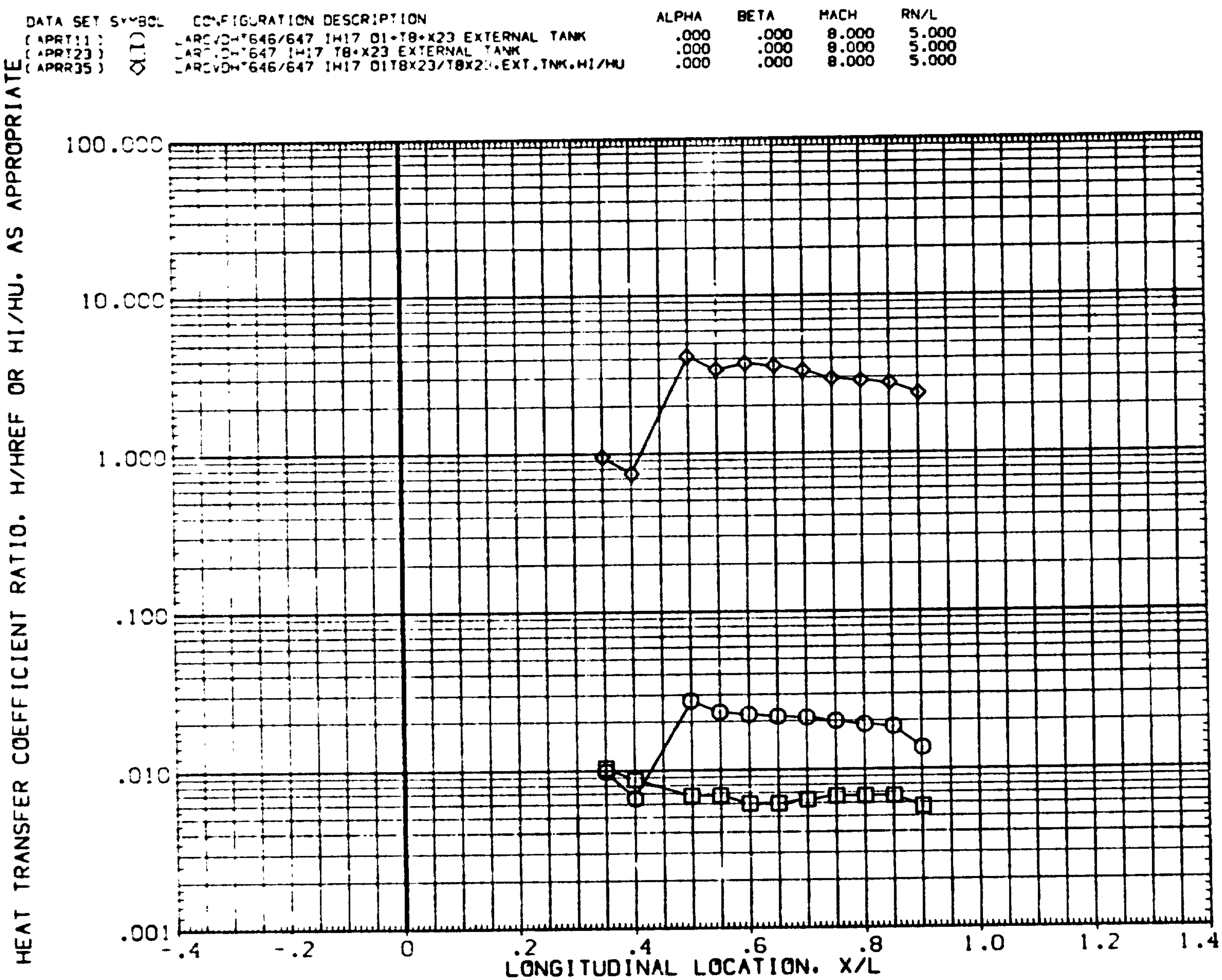


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW/HT= .900 PHI = 135.000

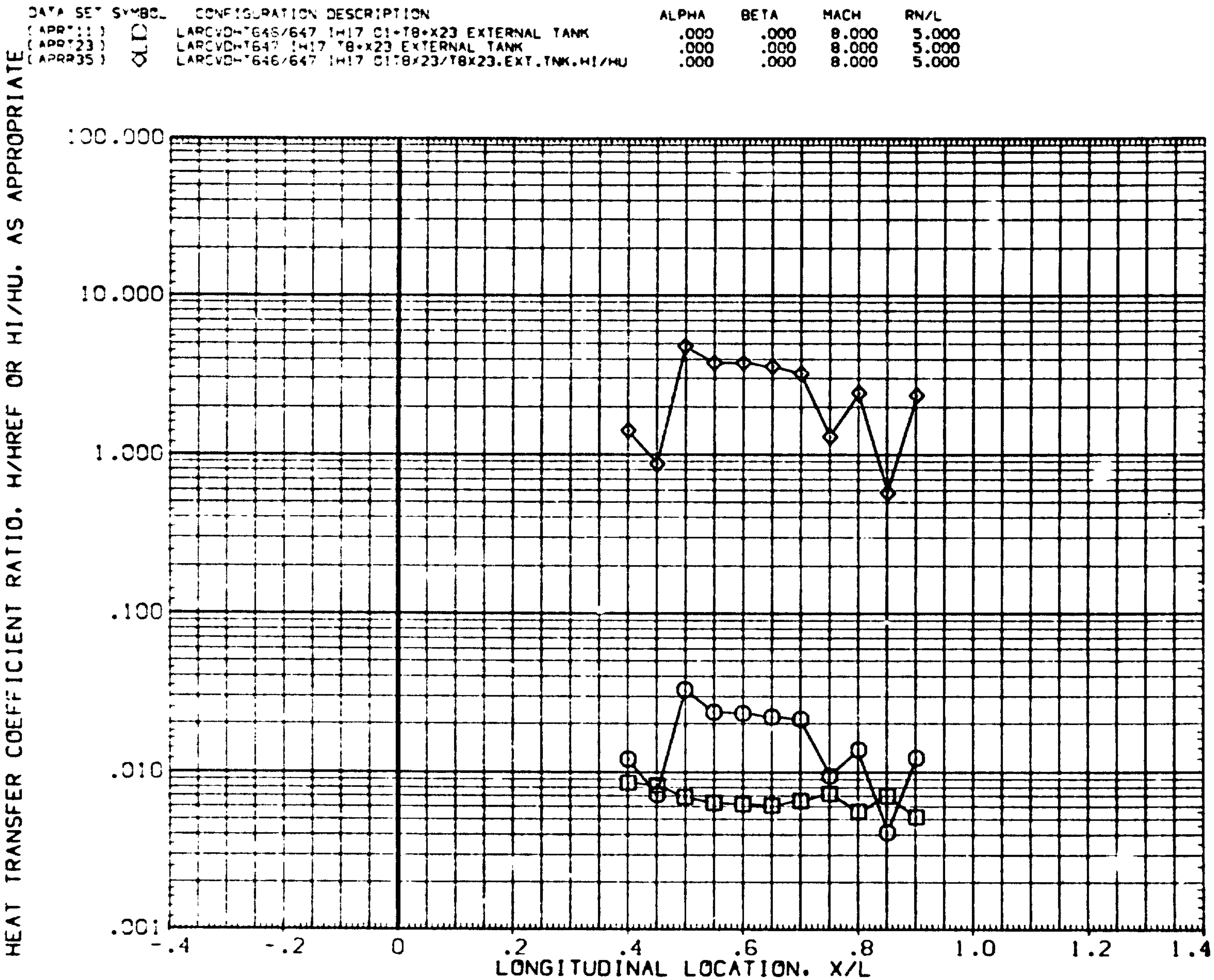


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 RAW HT= .900 PHI = 157.500

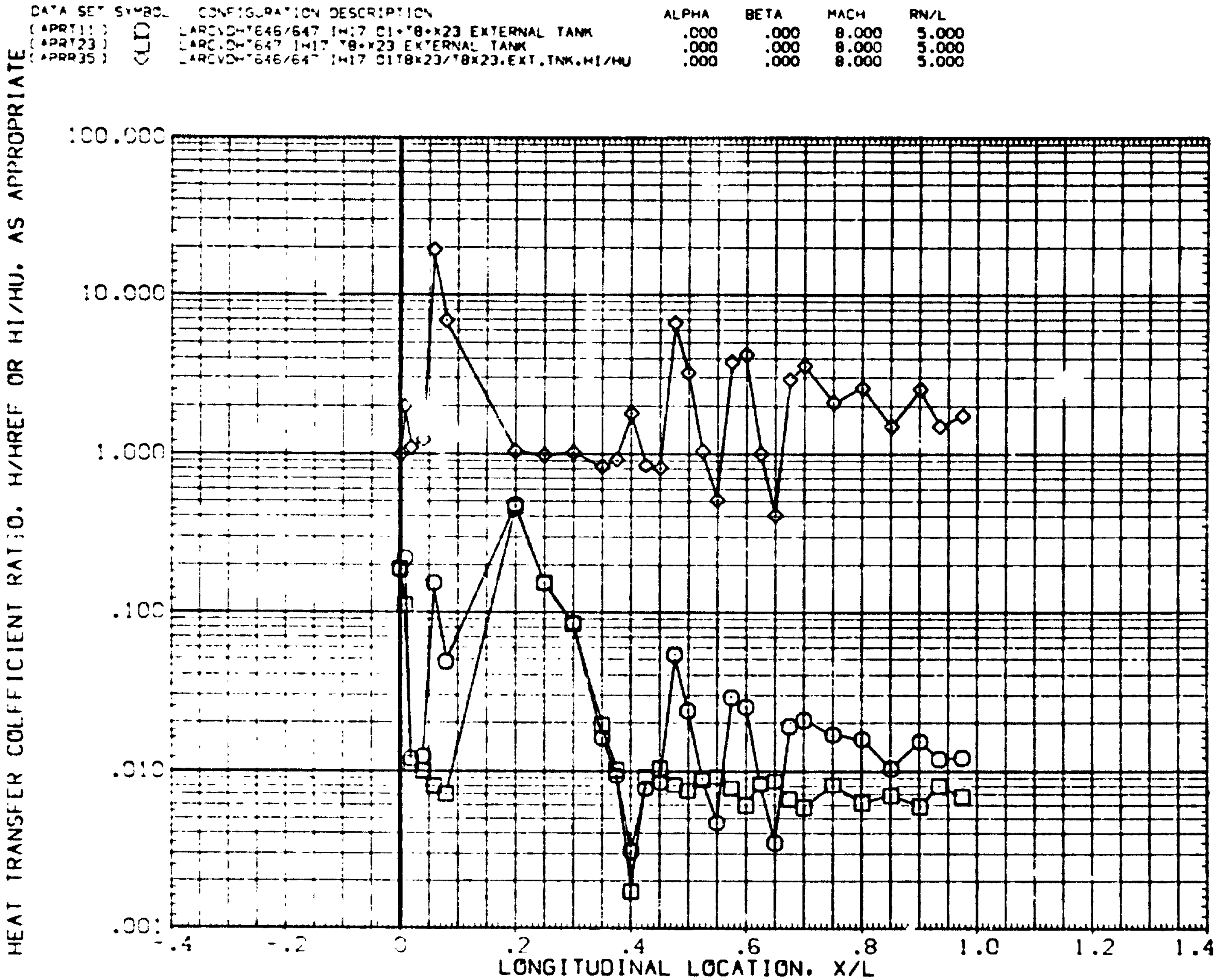


FIG. 38 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=5.0, ALPHA= 0.0)

RN/L = 5.000 HAW.HT= .900 PHI = 180.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT12)	○	LARCVDHT646/647 IH17 C1+T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRT24)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRR36)	◇	LARCVDHT646/647 IH17 C1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	10.000

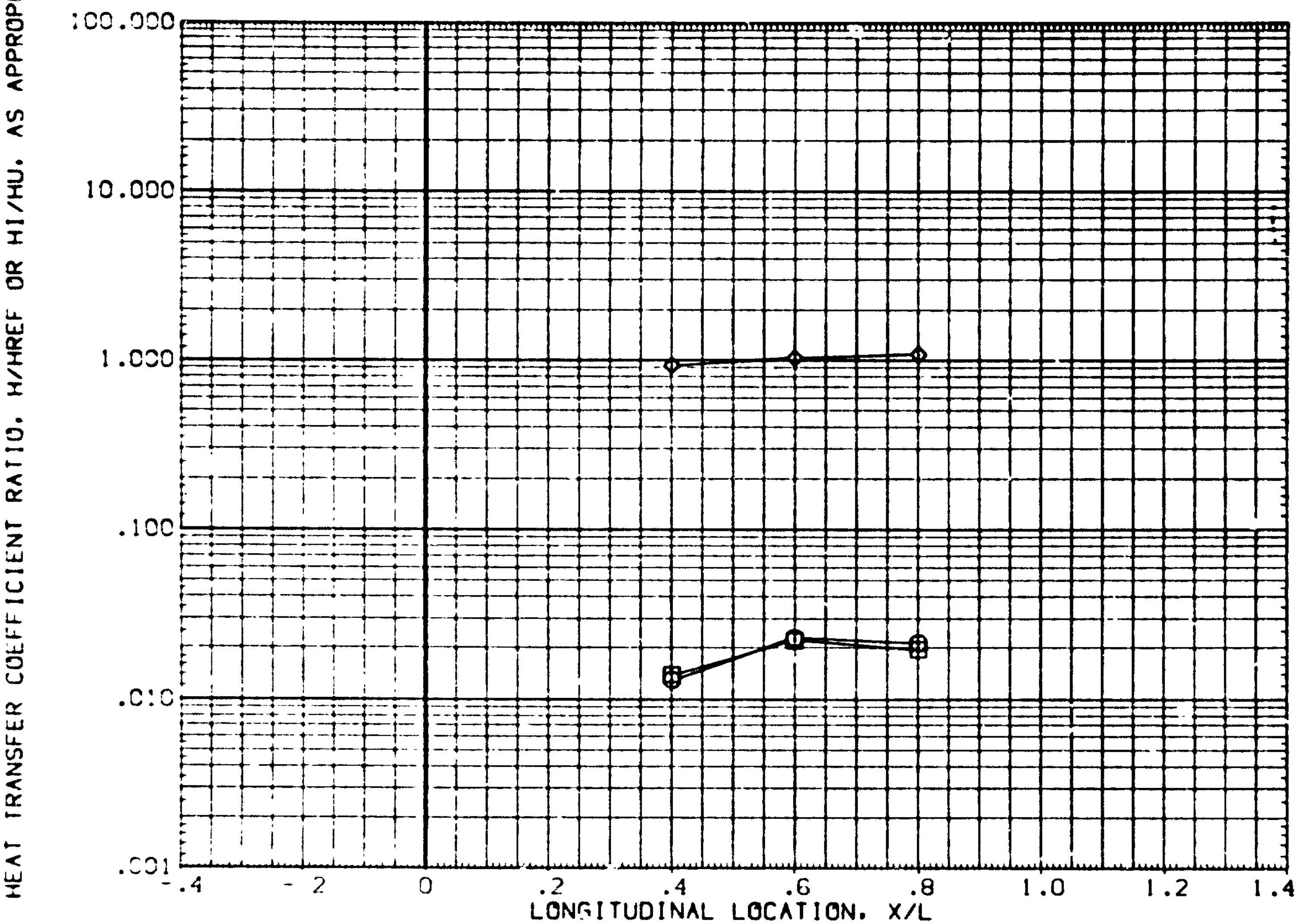


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 .850 PHI = .000

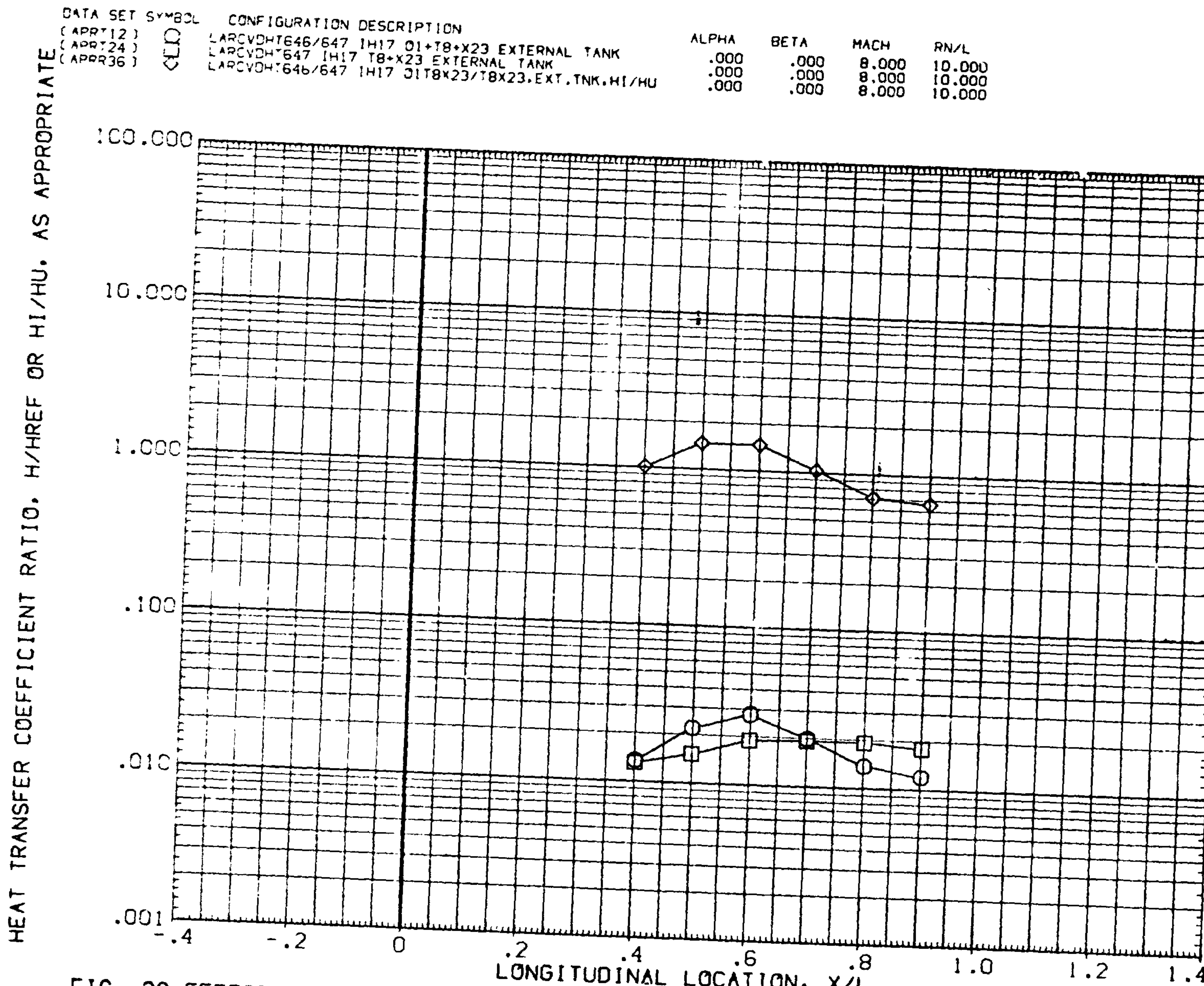


FIG. 39 EFFECT OF ØRB. ØN E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 45.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT12)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRT24)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRR36)	◇	LARCVDHT646/647 IH17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	10.000

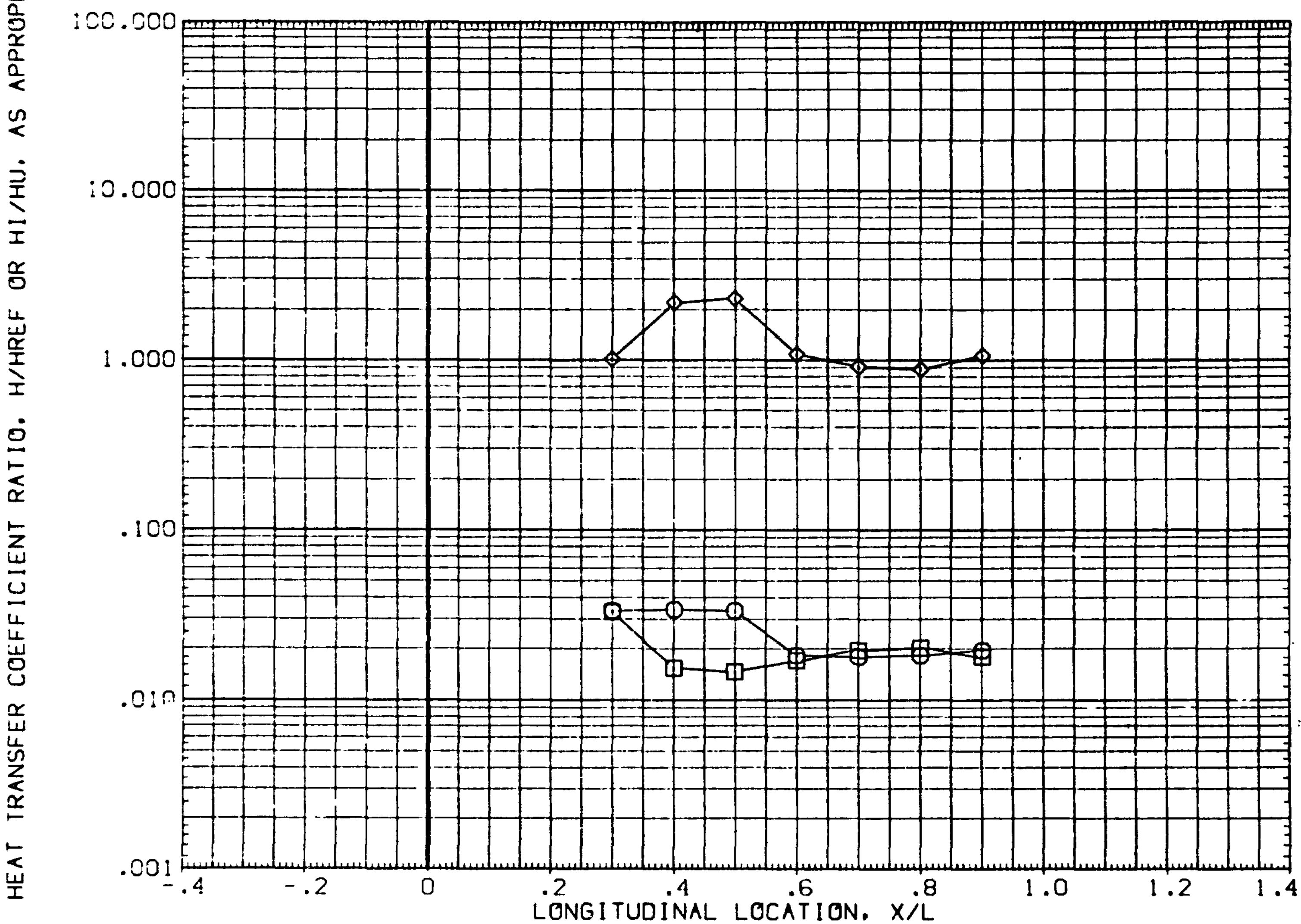


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 67.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT12)	○	LARCVDHT646/647 IH17 01+T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRT24)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRR36)	◇	LARCVDHT646/647 IH17 01T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	10.000

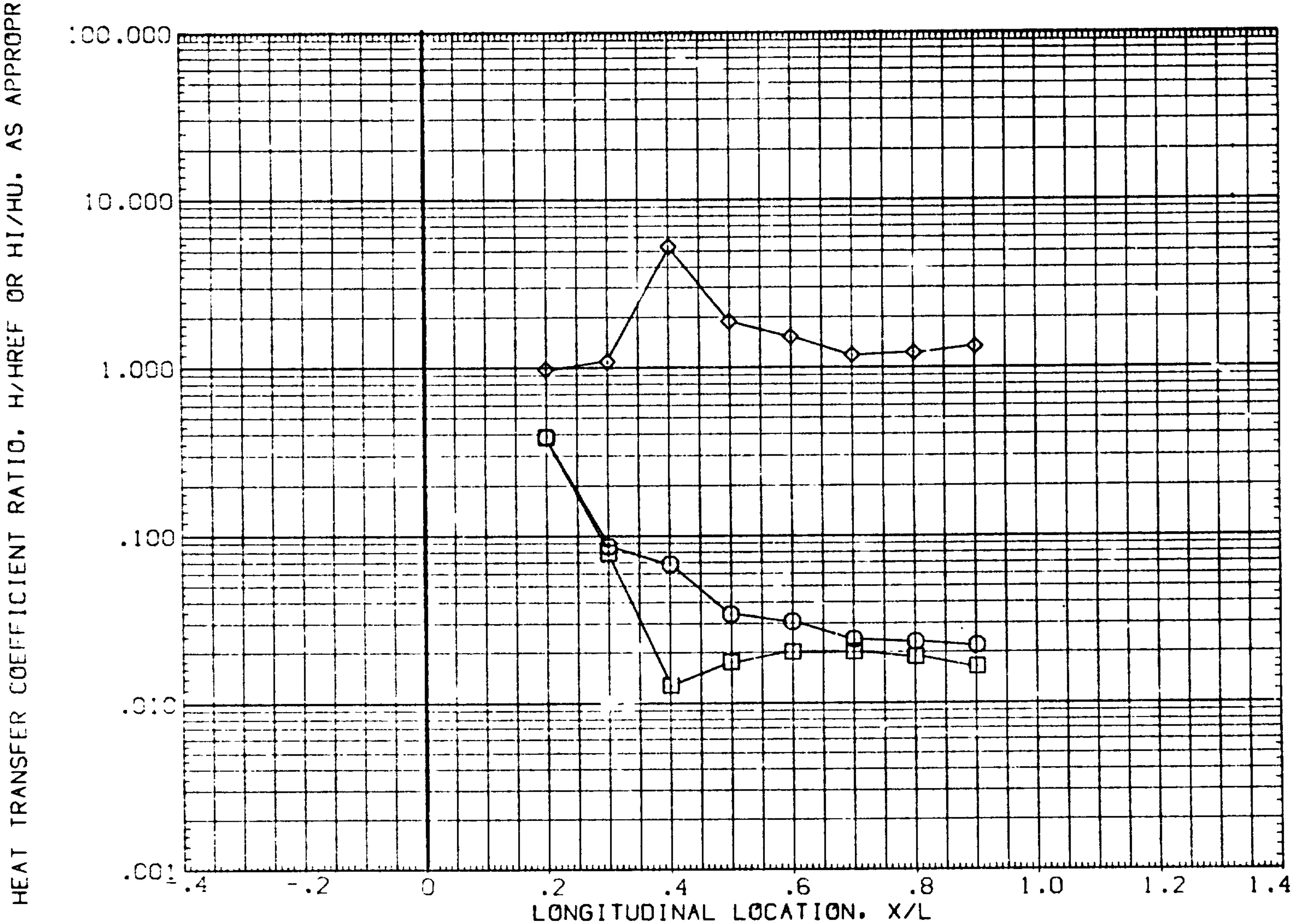


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 90.000

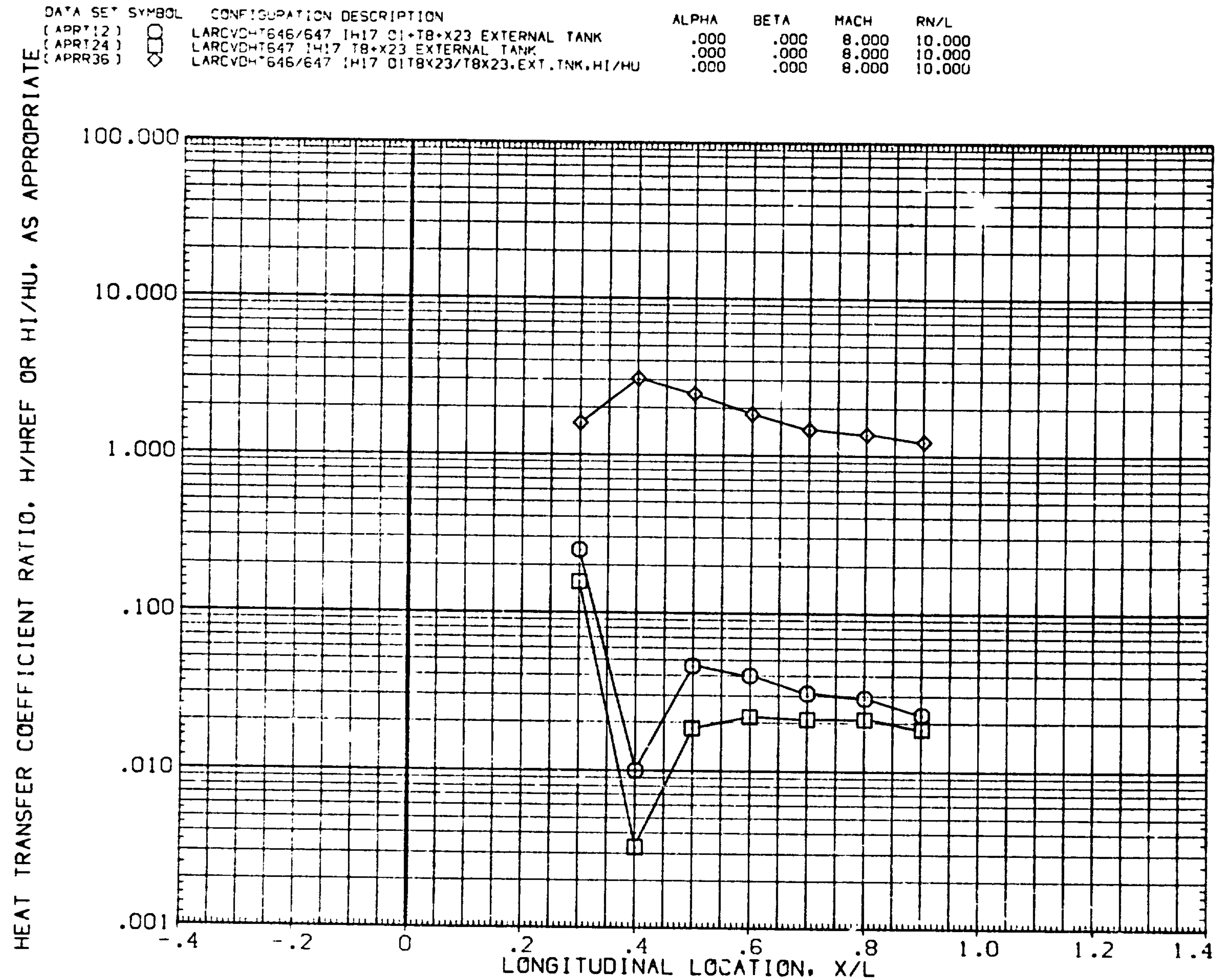


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 112.500

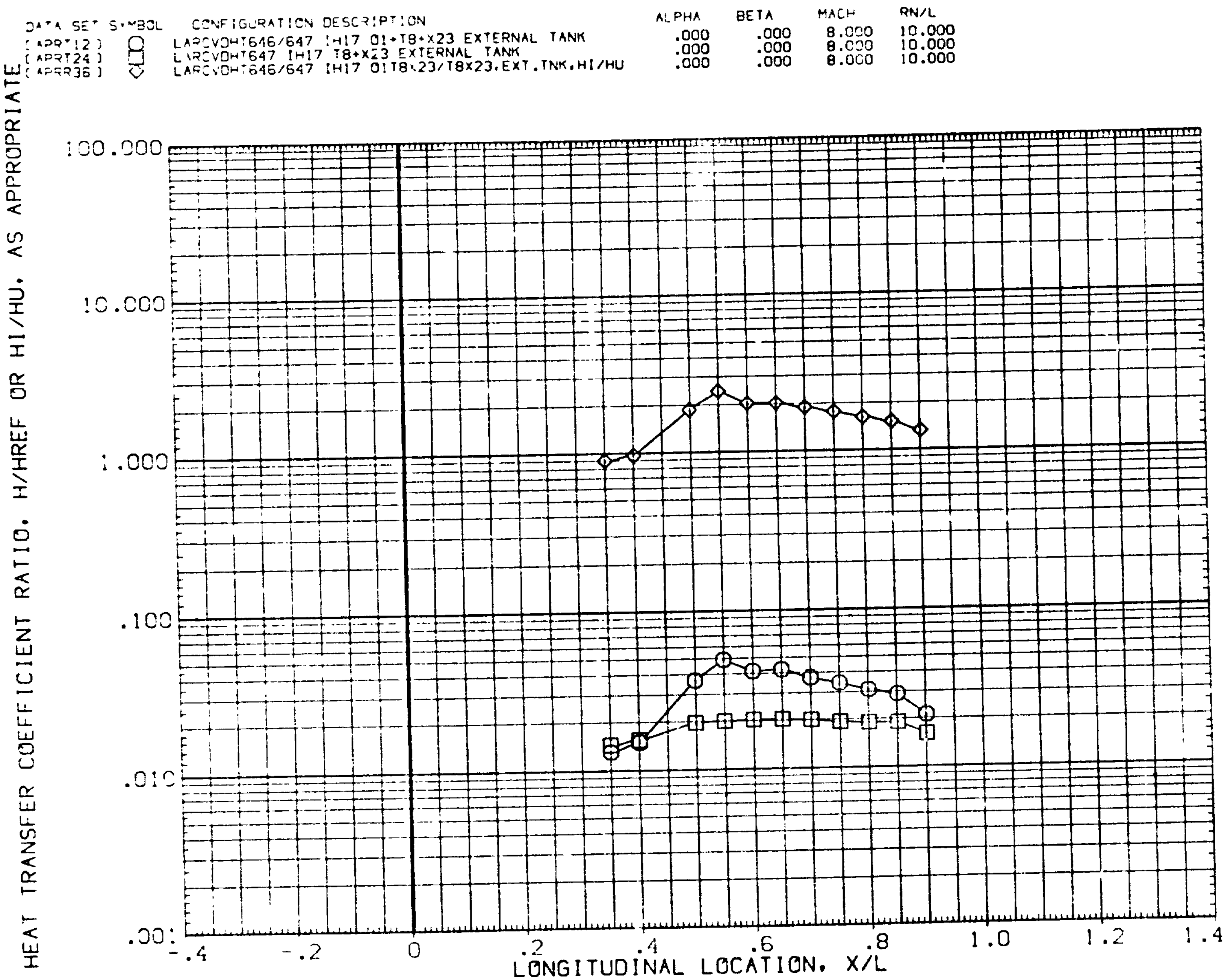


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 135.000

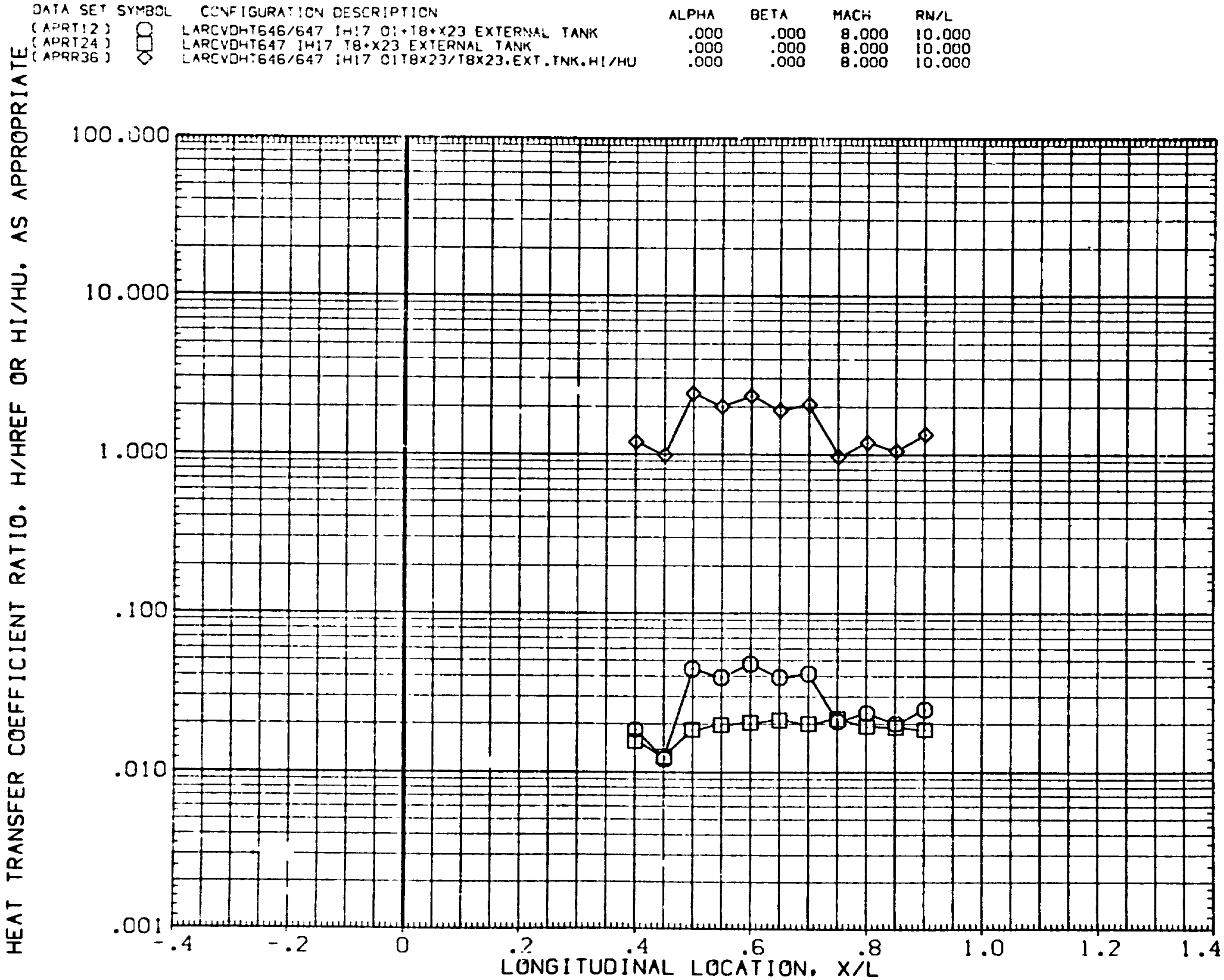


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 157.500

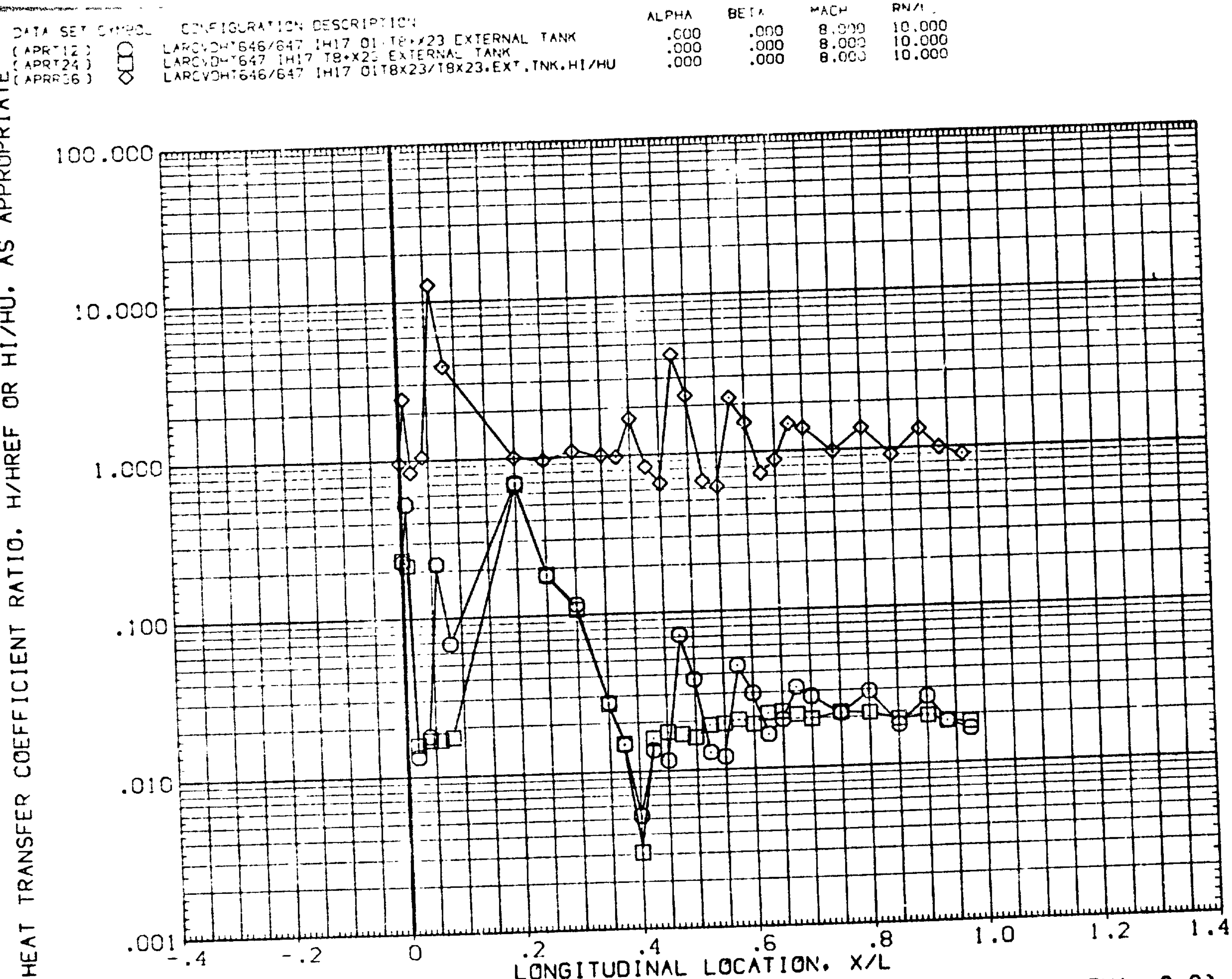


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .850 PHI = 180.000

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

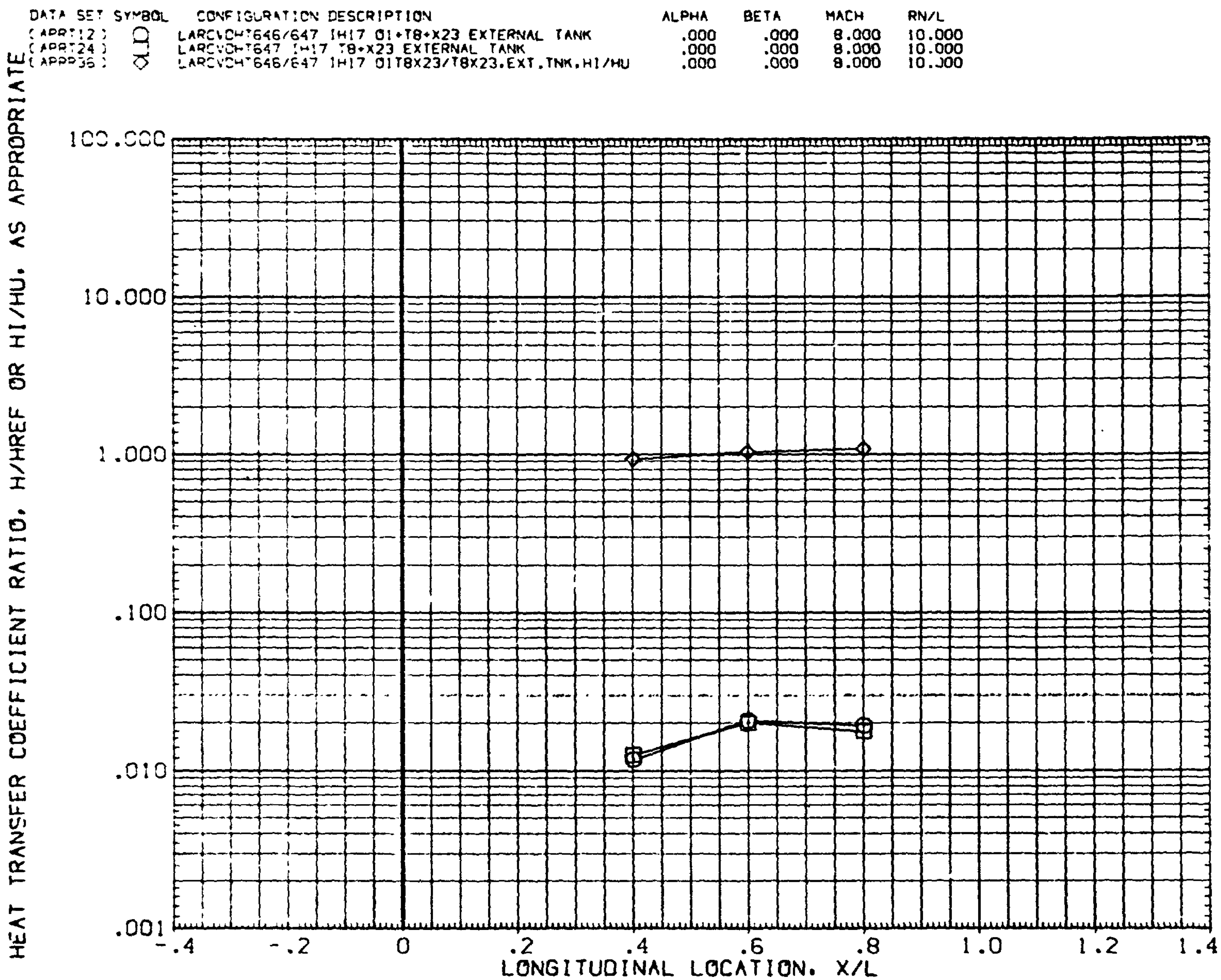


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = .000

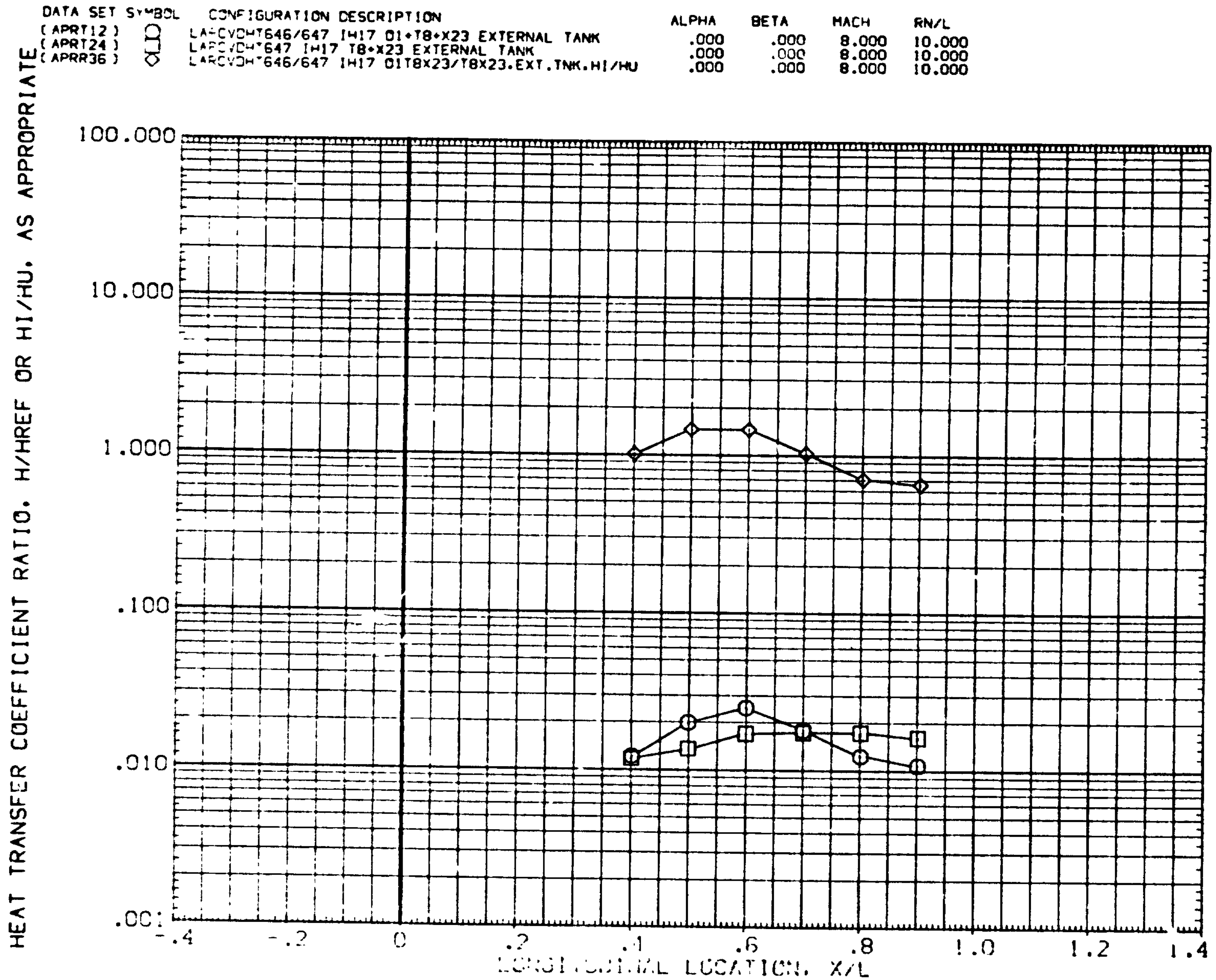


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = 45.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APPT12)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRT24)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRR36)	◇	LARCVDHT646/647 IH17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	10.000

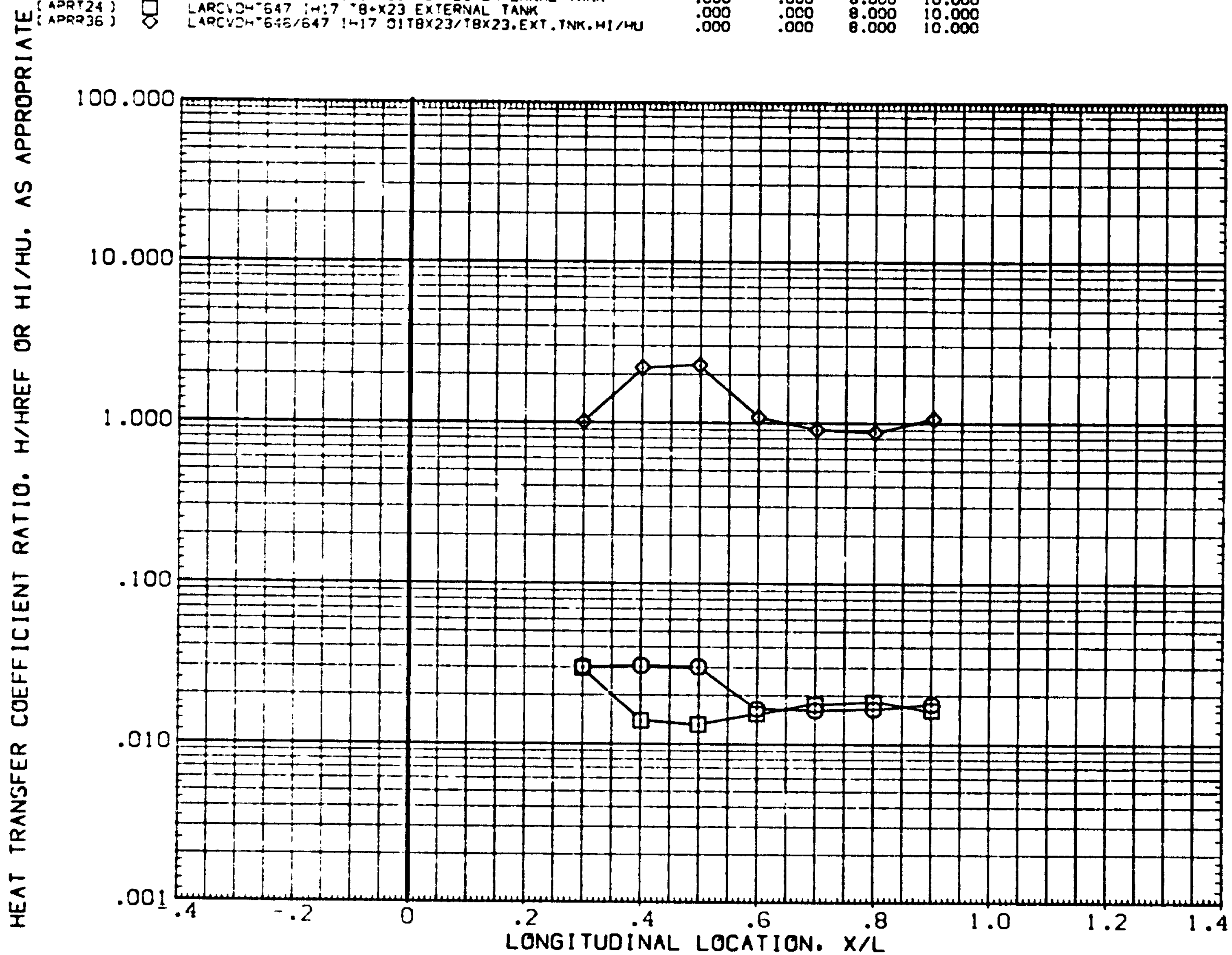


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = 67.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT12)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRT24)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRR36)	◇	LARCVDHT646/647 IH17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	10.000

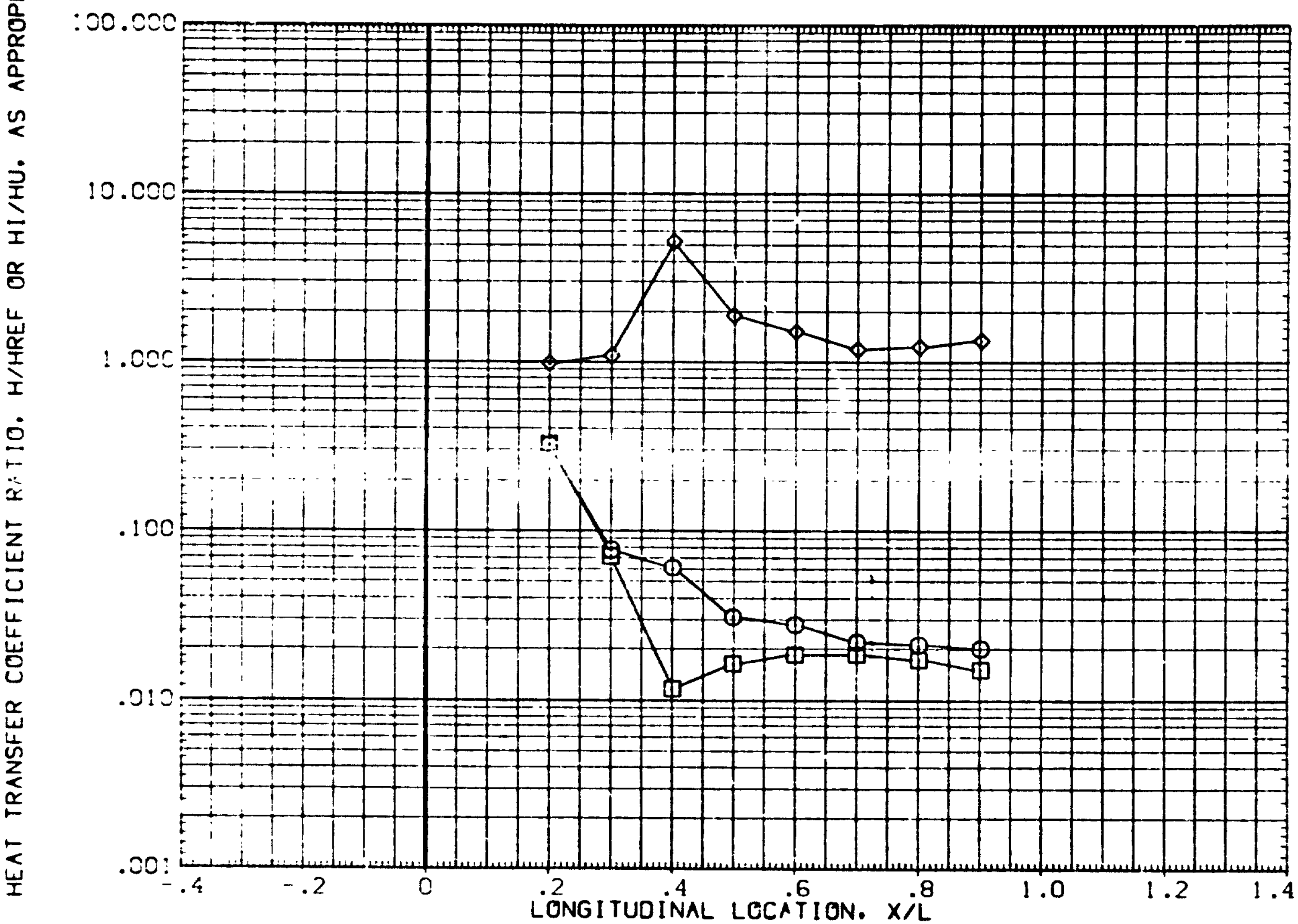


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = 90.000

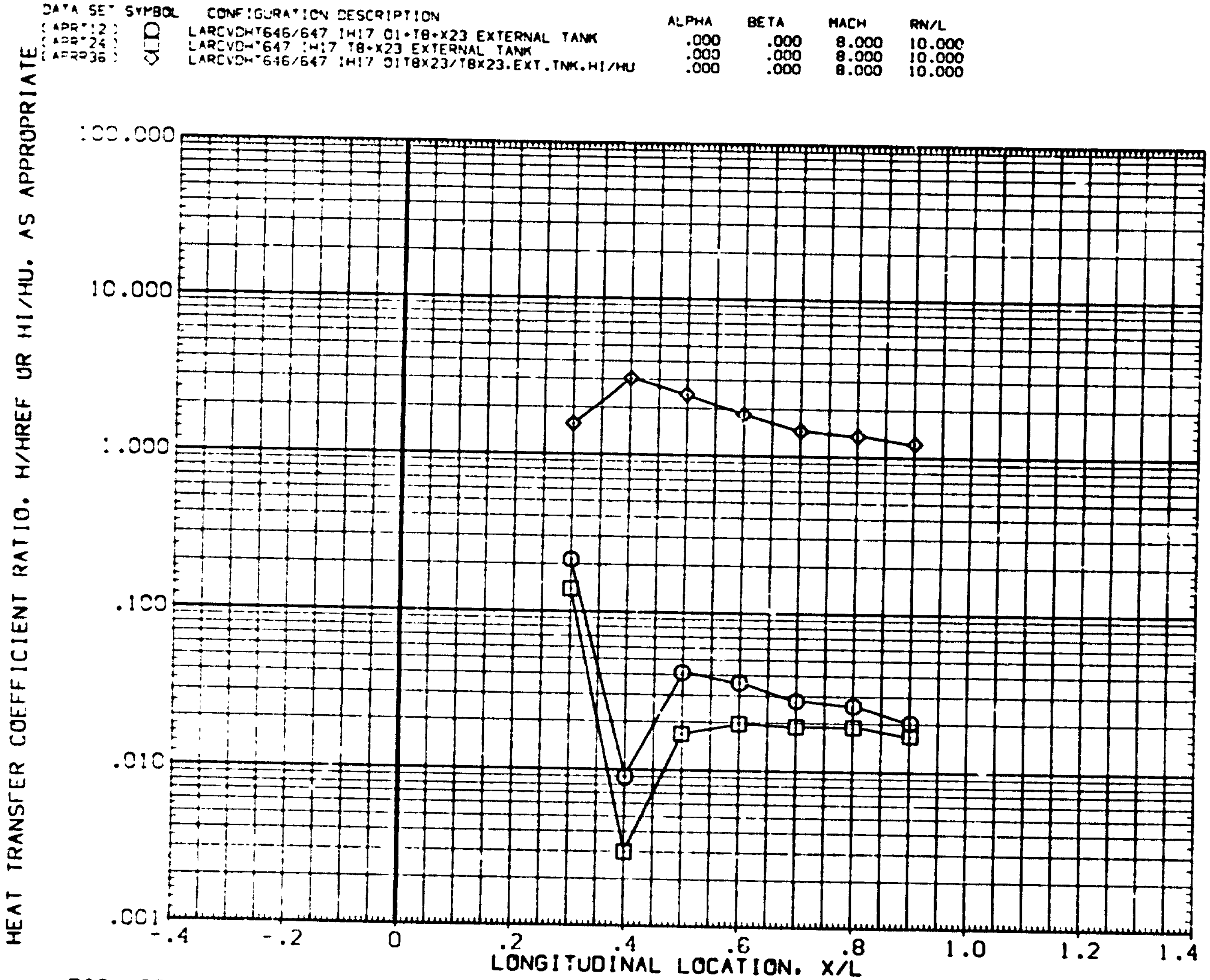


FIG. 39 EFFECT OF CRB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = 112.500

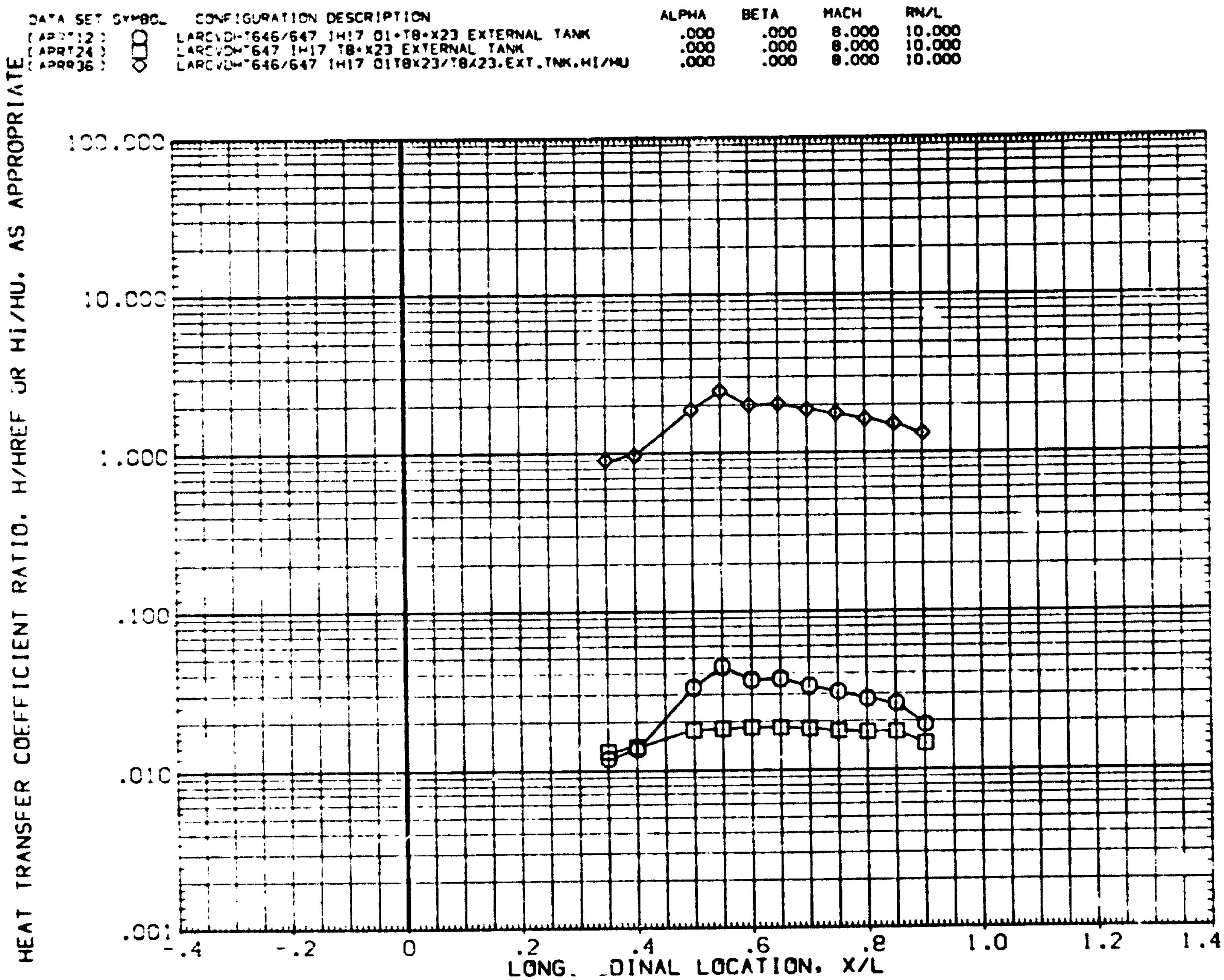


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = 135.000

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APR**2)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APR*24)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRR36)	◇	LARCVDHT646/647 IH17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	10.000

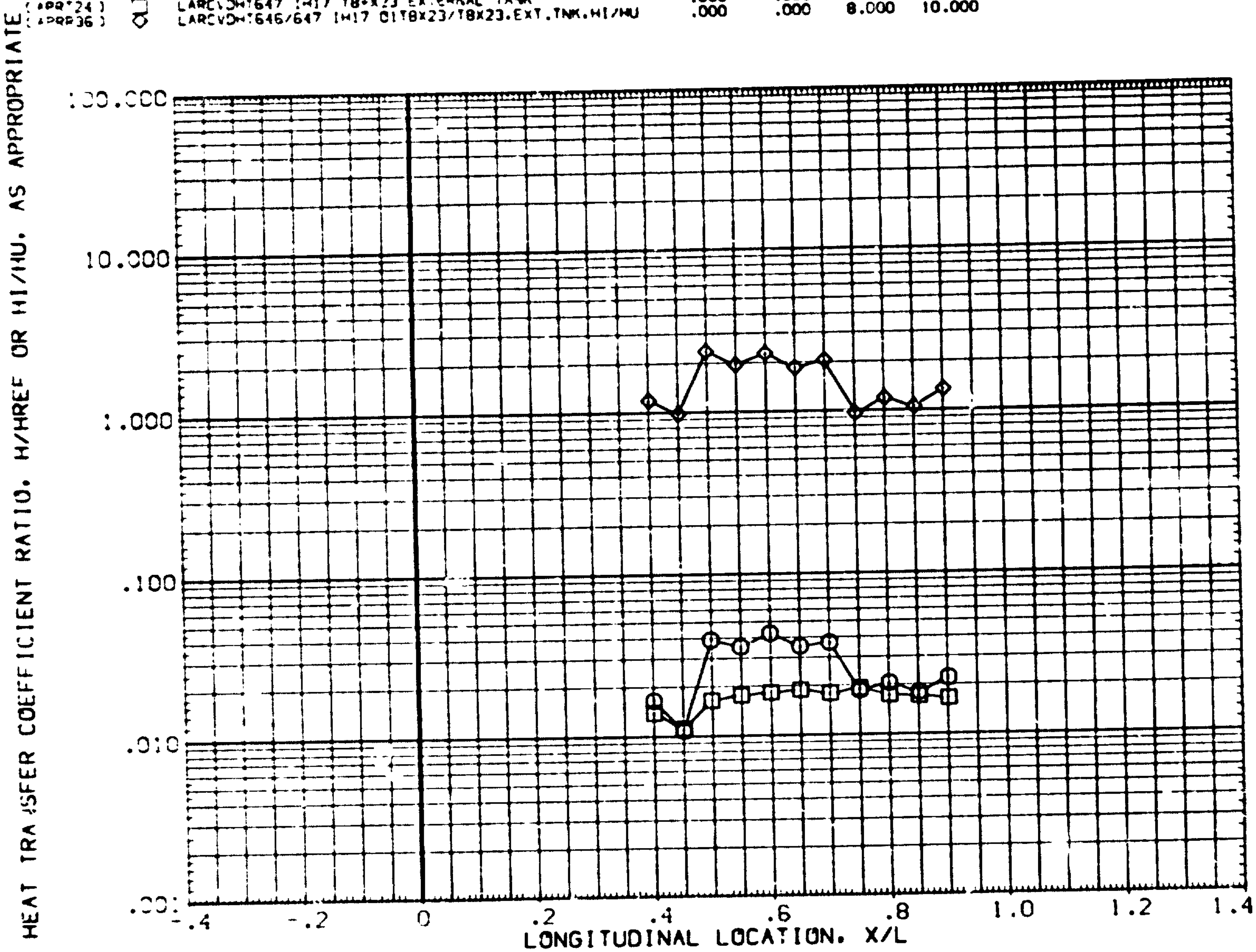


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = 157.500

DATA SET	SYMBOL	CONFIGURATION DESCRIPTION	ALPHA	BETA	MACH	RN/L
(APRT12)	○	LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRT24)	□	LARCVDHT647 IH17 T8+X23 EXTERNAL TANK	.000	.000	8.000	10.000
(APRR36)	◇	LARCVDHT646/647 IH17 O1T8X23/T8X23.EXT.TNK.HI/HU	.000	.000	8.000	.0.000

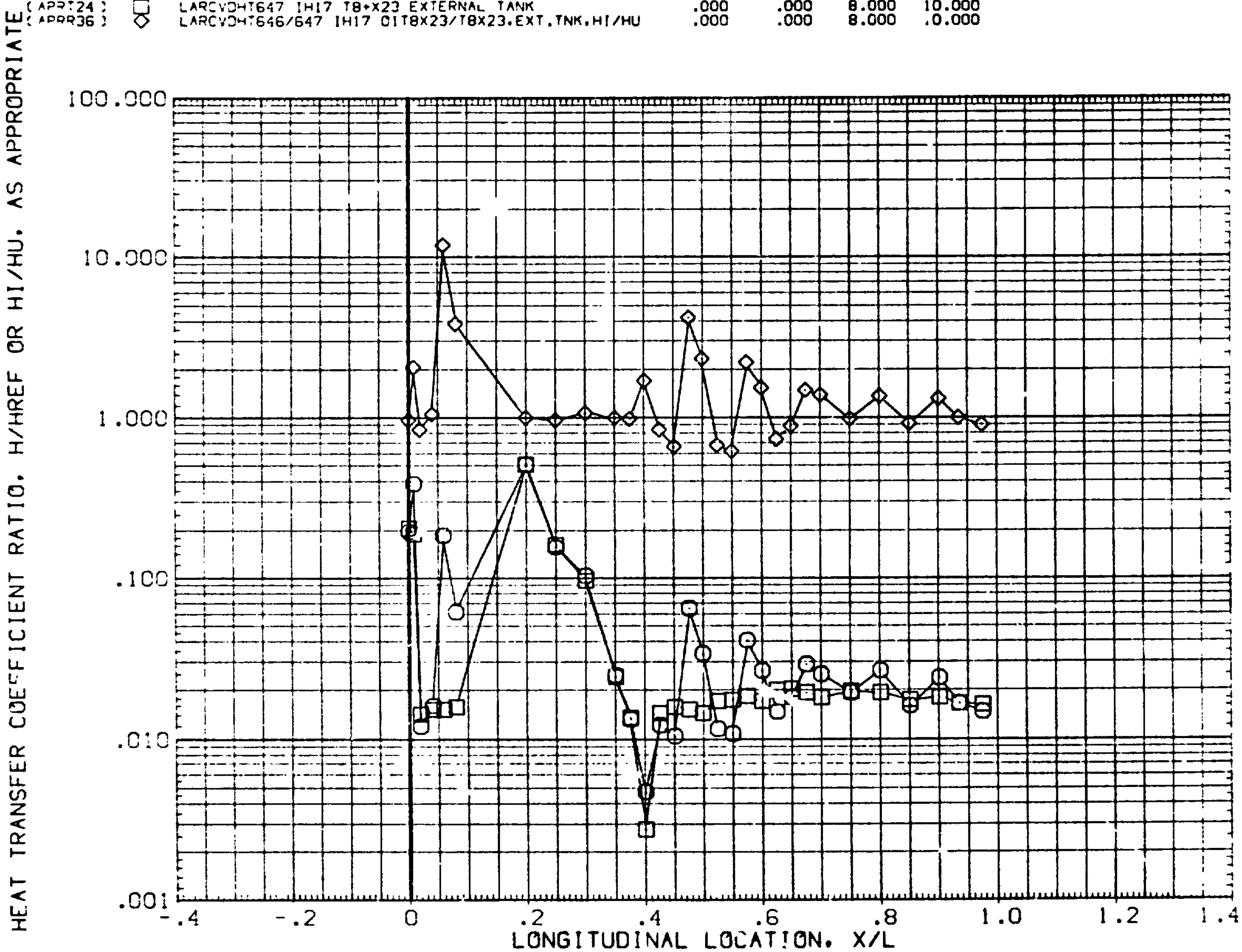


FIG. 39 EFFECT OF ORB. ON E.T. + X23 HEAT TRANSFER (RN/L=10.0, ALPHA= 0.0)

RN/L = 10.000 HAW/HT= .900 PHI = 180.000

LARCVDHT647 IH17 T8 EXTERNAL TANK (APRT13)

SYMBOL	PHI	HAW/HT	RN/L
○	.000	.850	.100
□	45.000		
◇	67.500		
△	90.000		

PARAMETRIC VALUES

MACH	8.000	ALPHA	.000
BETA	.000	RN/L	.100

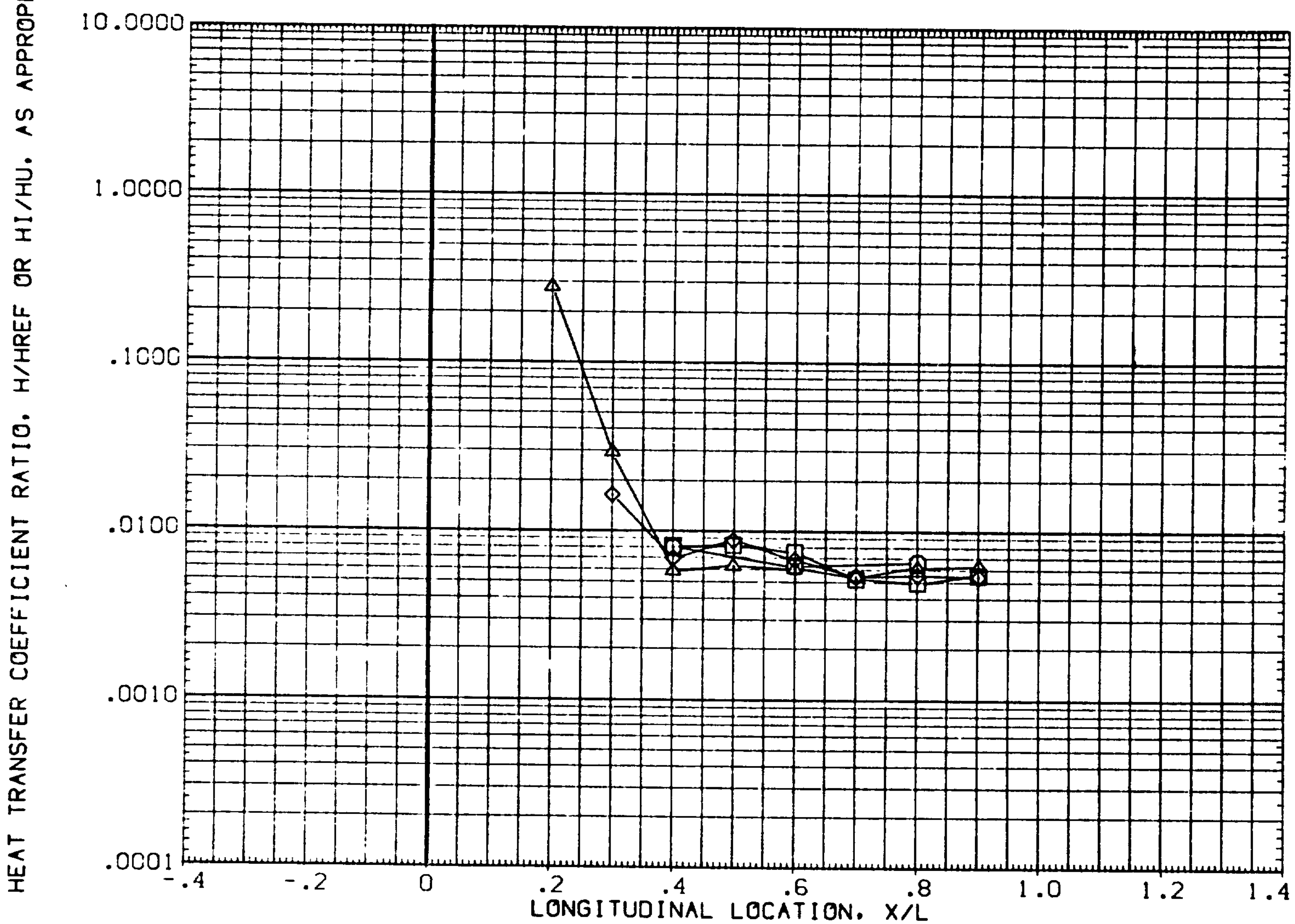


FIG. 40 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=0.1, ALPHA= 0.0)

LARCVDHT647 IH17 T8 EXTERNAL TANK (APRT13)

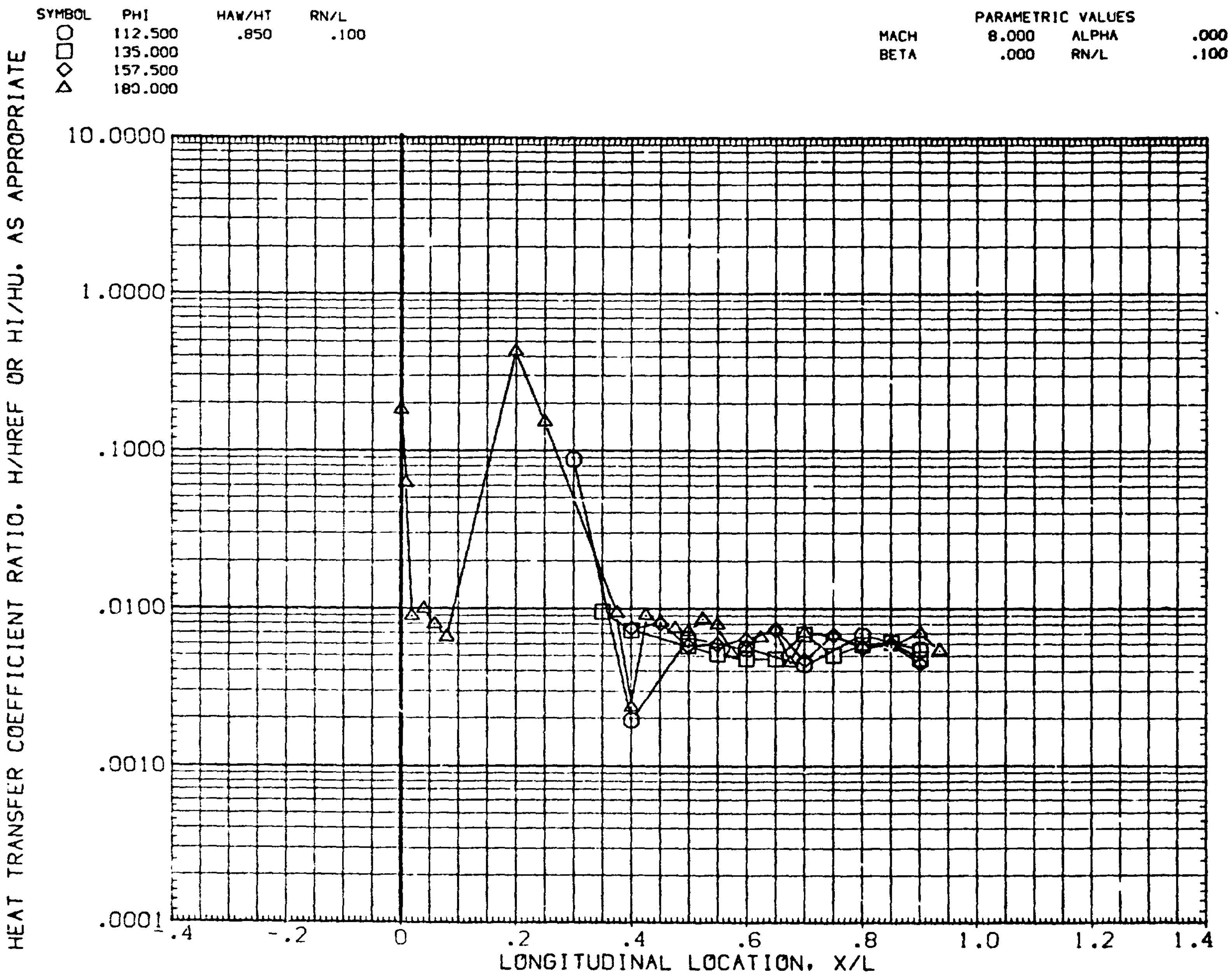


FIG. 40 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=0.1, ALPHA= 0.0)

LARCVDHT647 IH17 T8 EXTERNAL TANK (APRT13)

SYMBOL	PHI	HAW/HT	RN/L
○	.000	.900	.100
□	45.000		
◇	67.500		
△	90.000		

PARAMETRIC VALUES

MACH	8.000	ALPHA	.000
BETA	.000	RN/L	.100

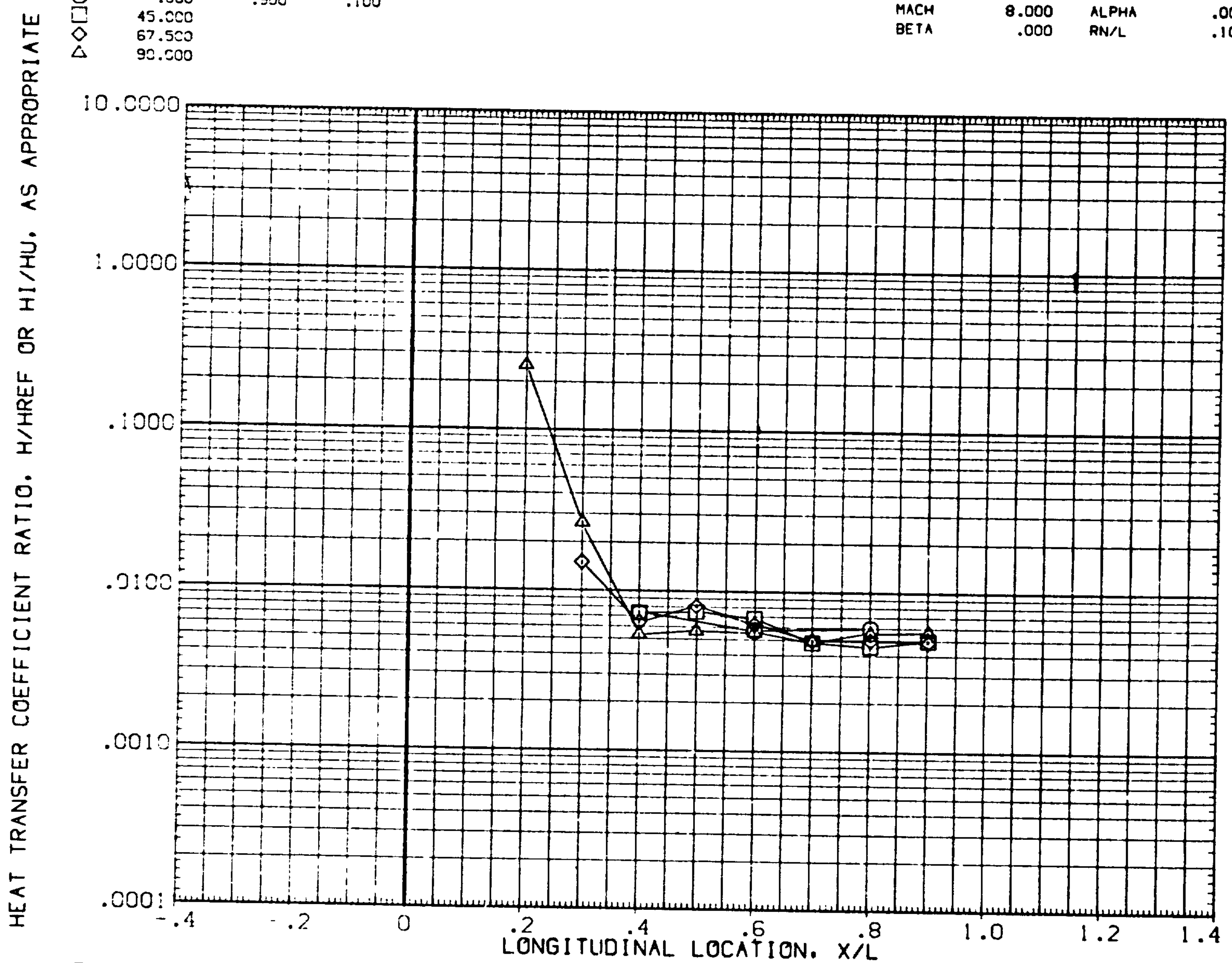


FIG. 40 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=0.1, ALPHA= 0.0)

LARCVDHT647 IH17 T8 EXTERNAL TANK (APRT13)

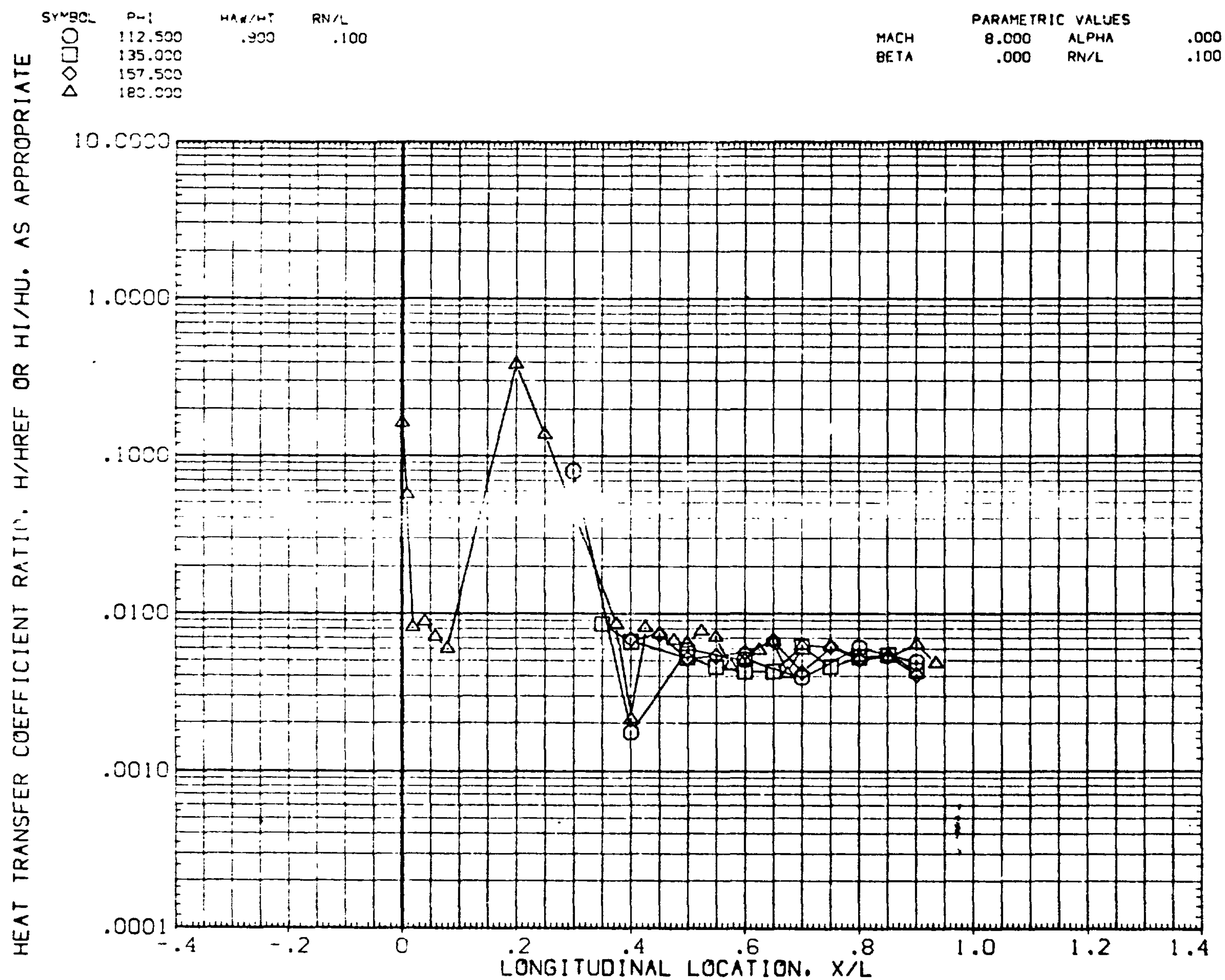


FIG. 40 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=0.1, ALPHA= 0.0)

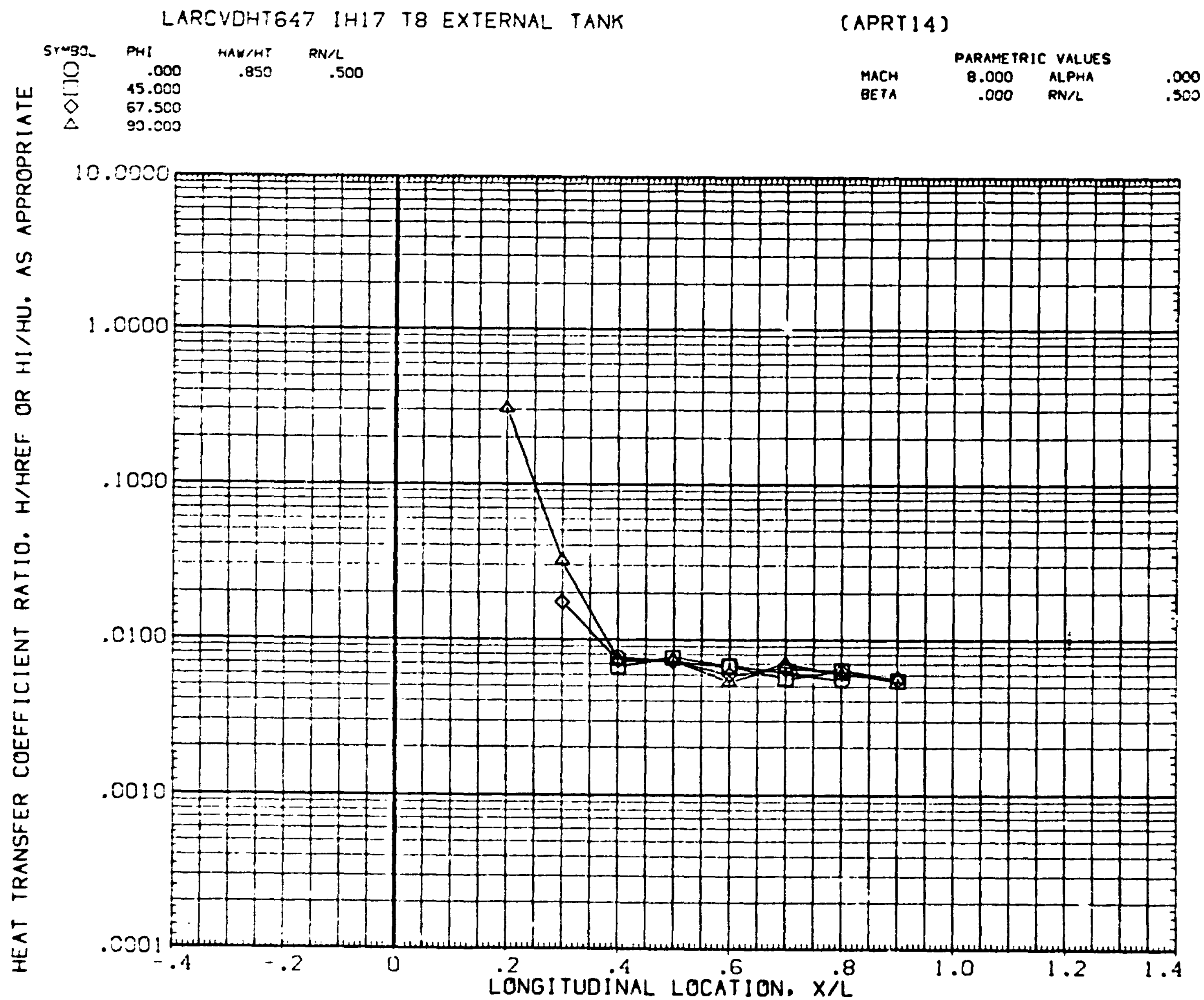


FIG. 41 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=0.5, ALPHA= 0.0)

LARCVDH?347 IH.7 T8 EXTERNAL TANK (APRT14)

SYMBOL	PHI	HAW/HT	RN/L
○	112.500	.350	.500
□	135.000		
◇	157.500		
△	180.000		

PARAMETRIC VALUES

MACH	8.000	ALPHA	.000
BETA	.000	RN/L	.500

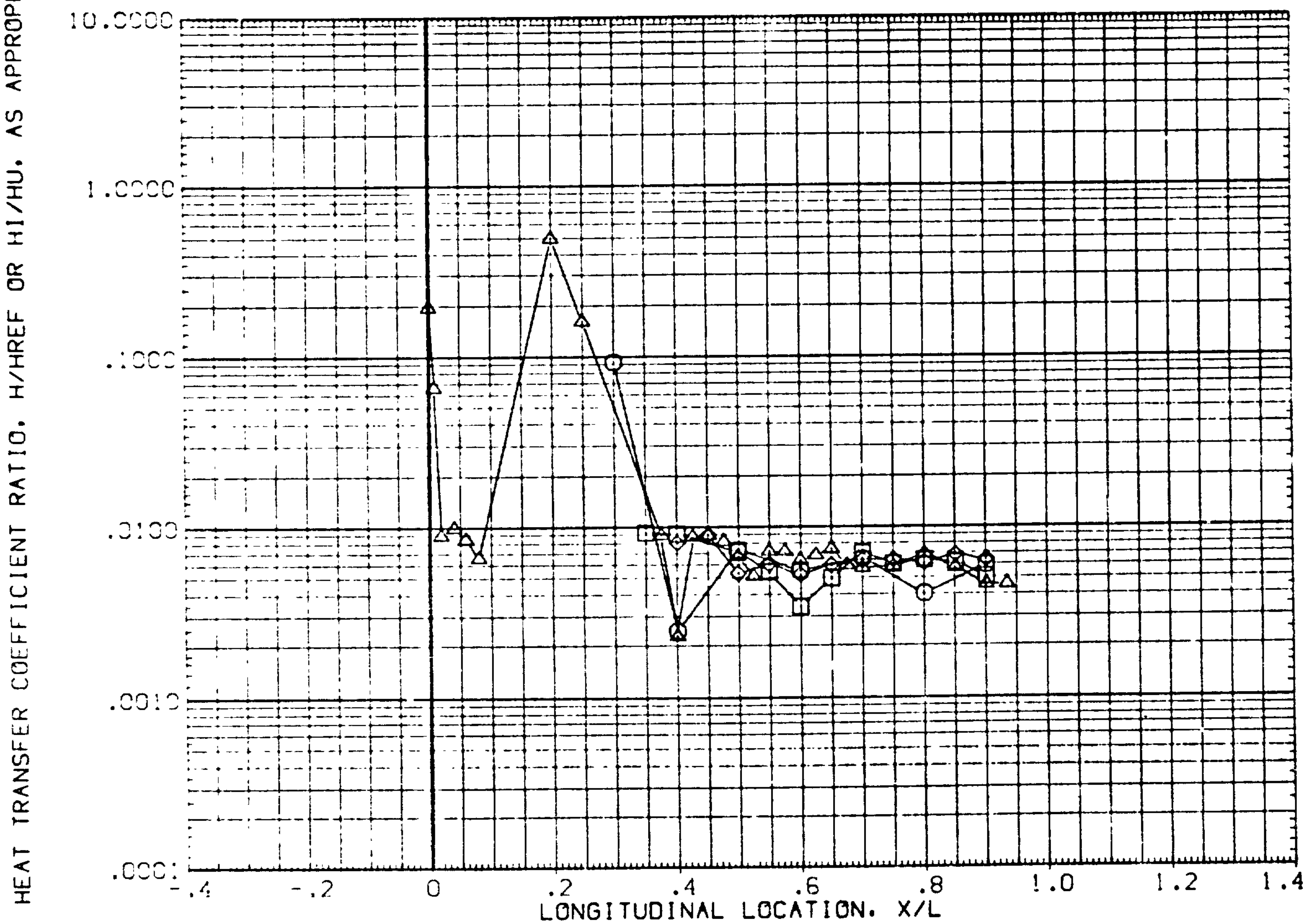


FIG. 41 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=0.5, ALPHA= 0.0)

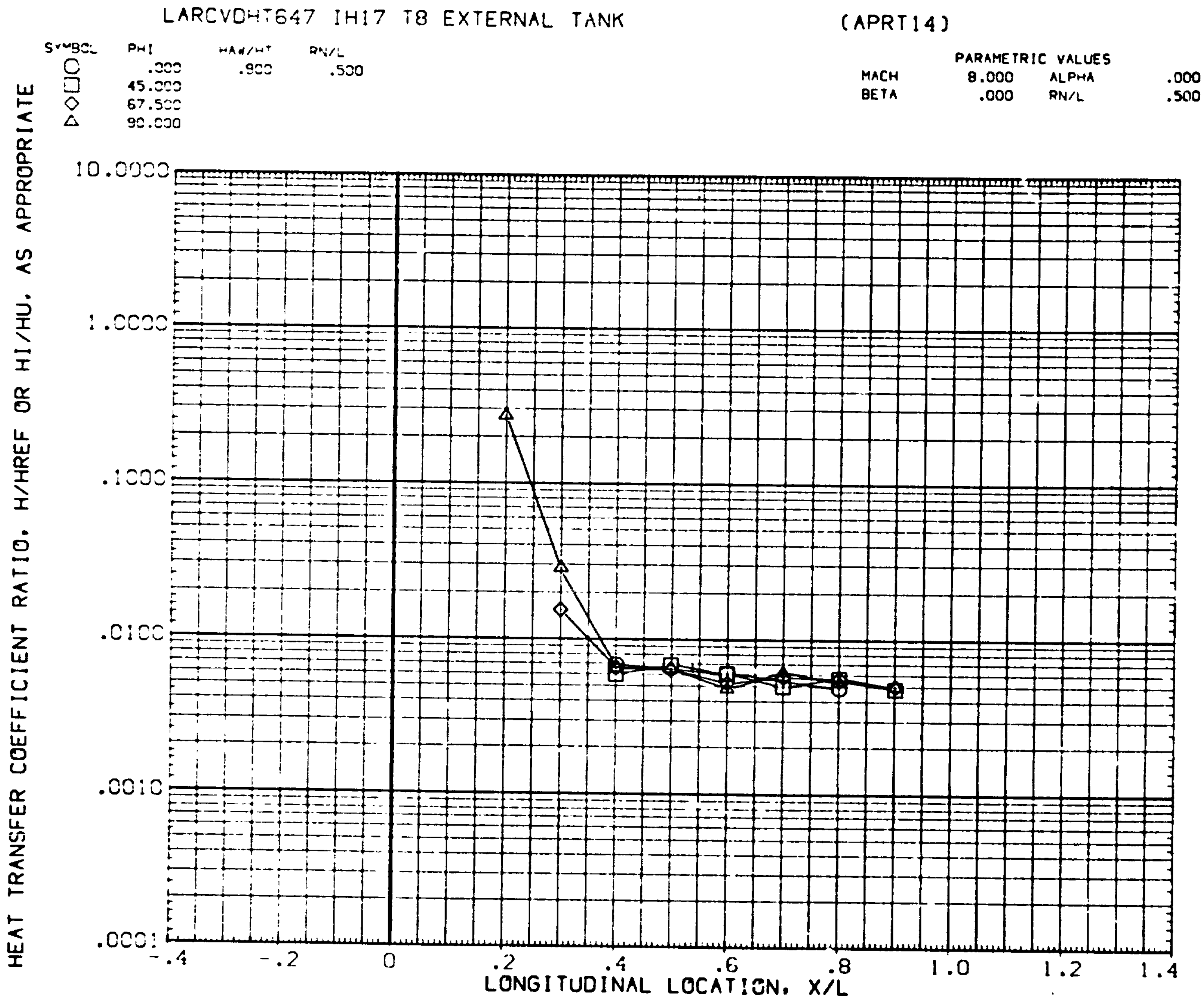


FIG. 41 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=0.5, ALPHA= 0.0)

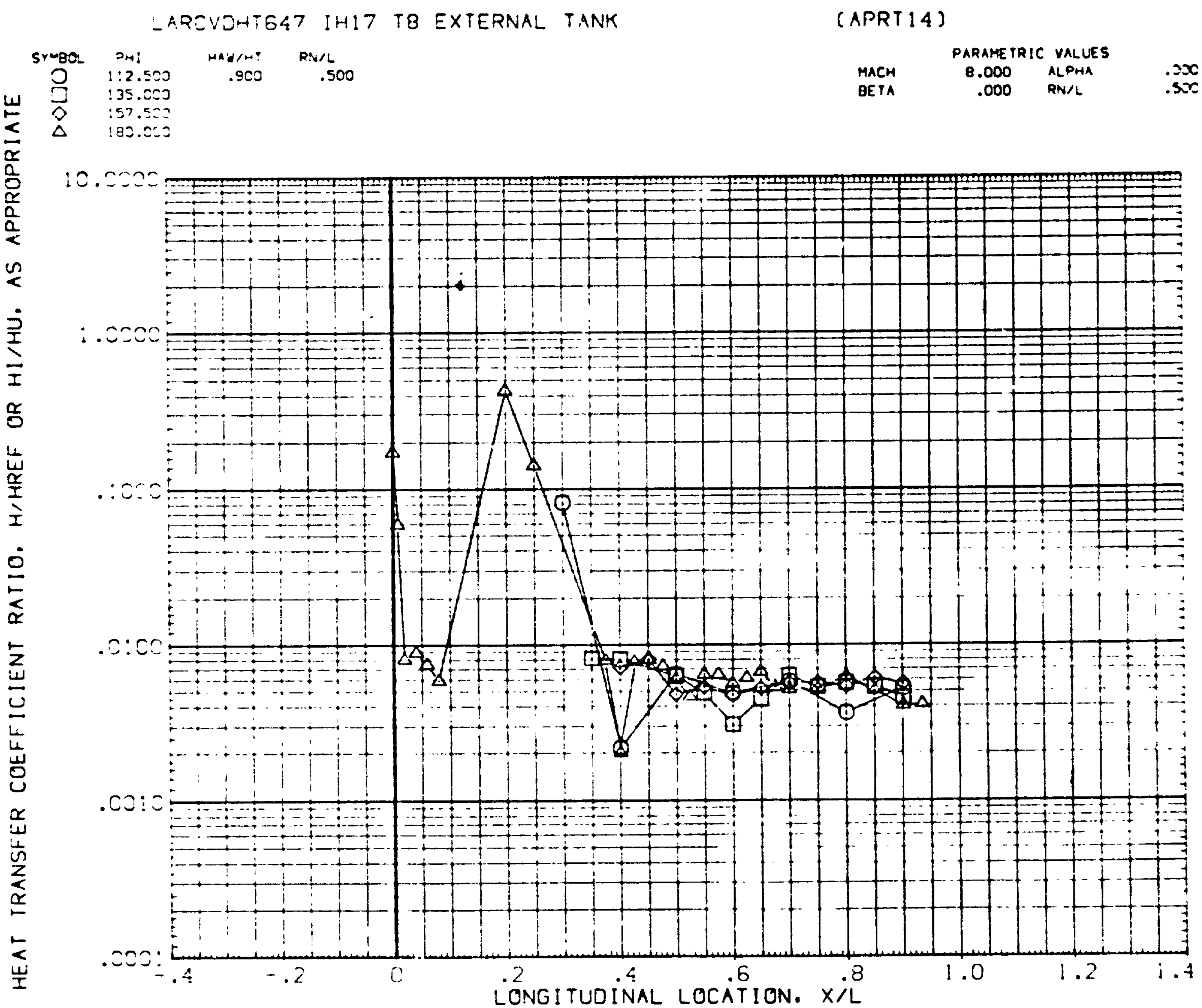


FIG. 41 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=0.5, ALPHA= 0.0)

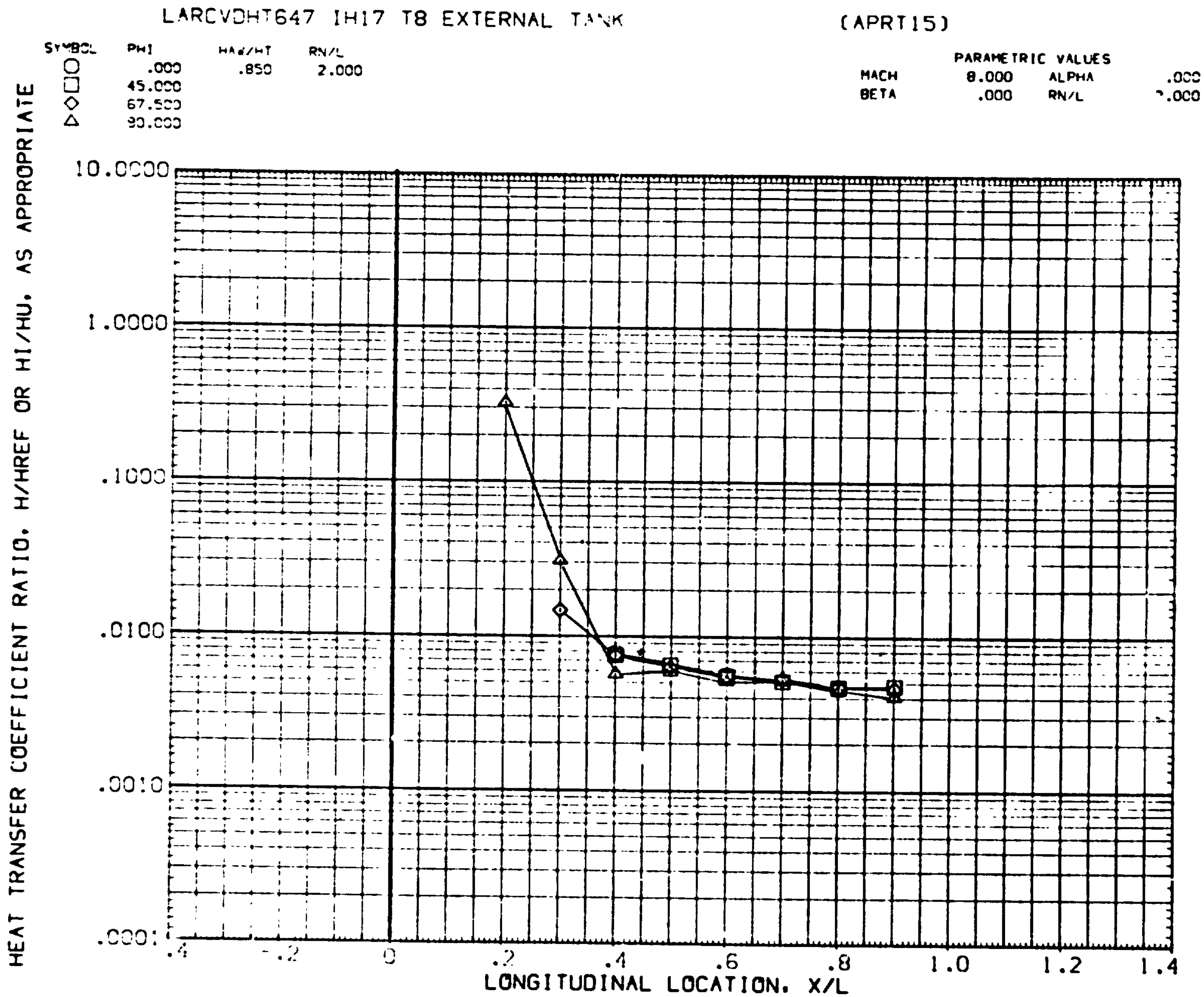


FIG. 42 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=2.0, ALPHA= 0.0)

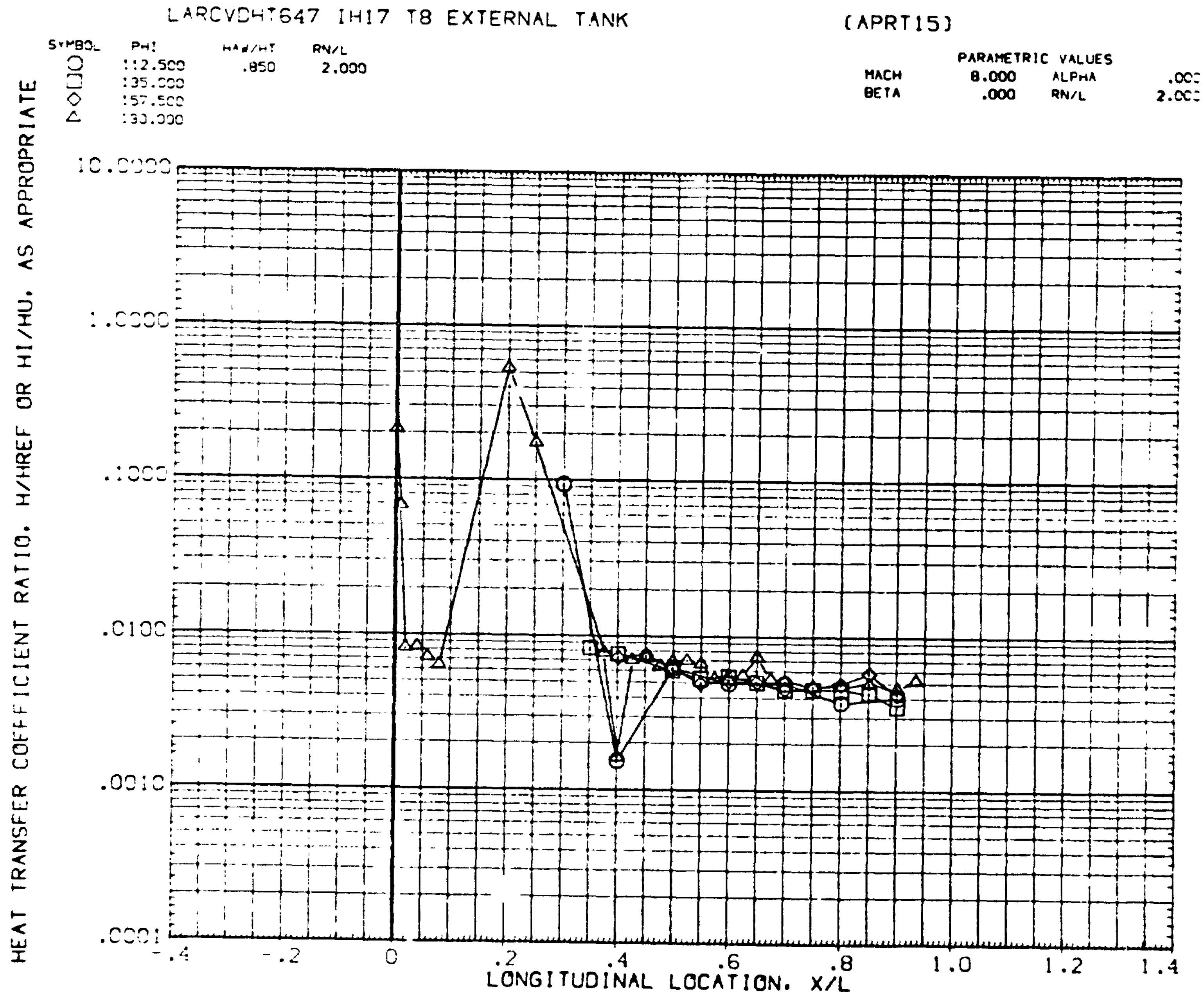


FIG. 42 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=2.0, ALPHA= 0.0)

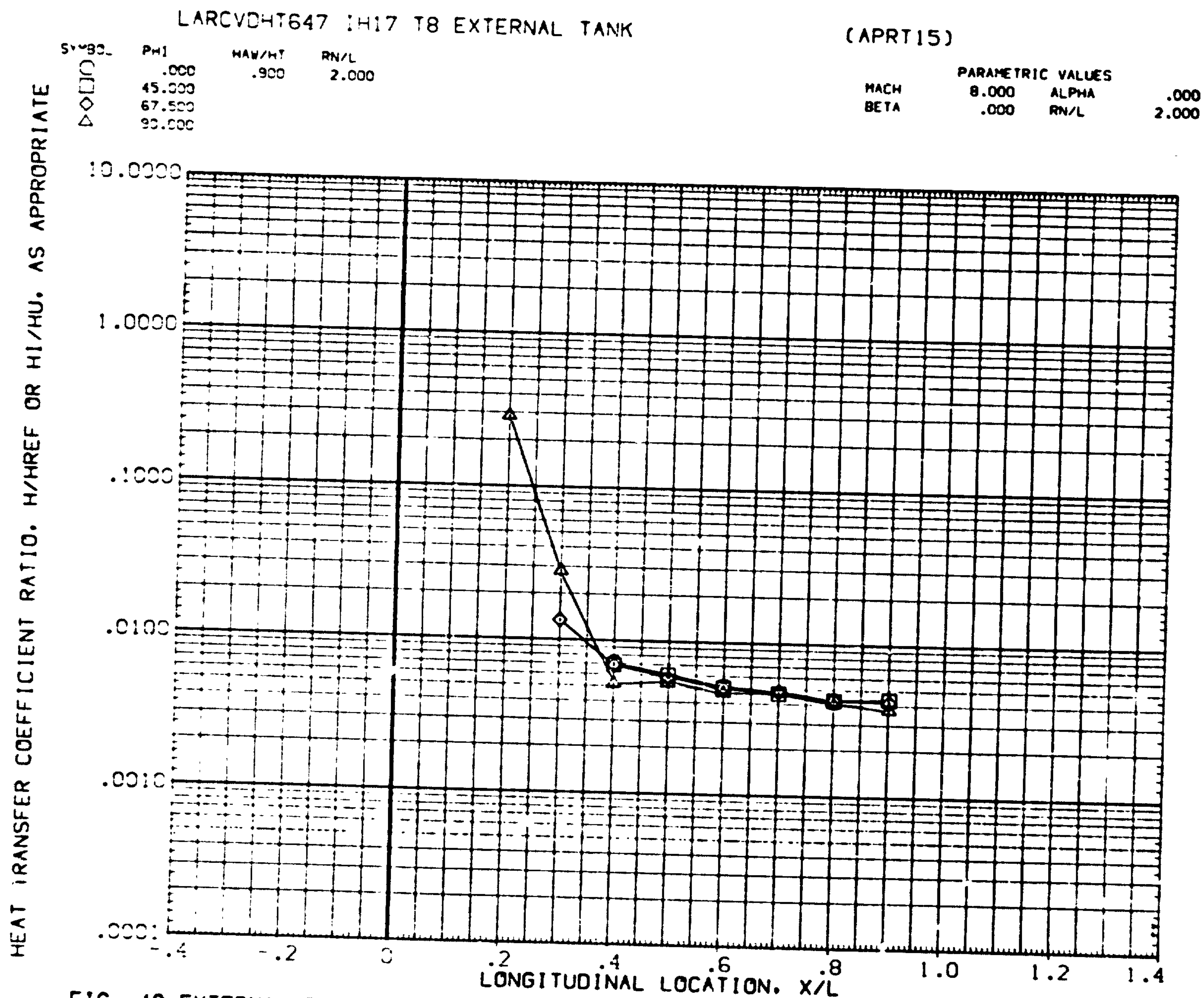


FIG. 42 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=2.0, ALPHA= 0.0)

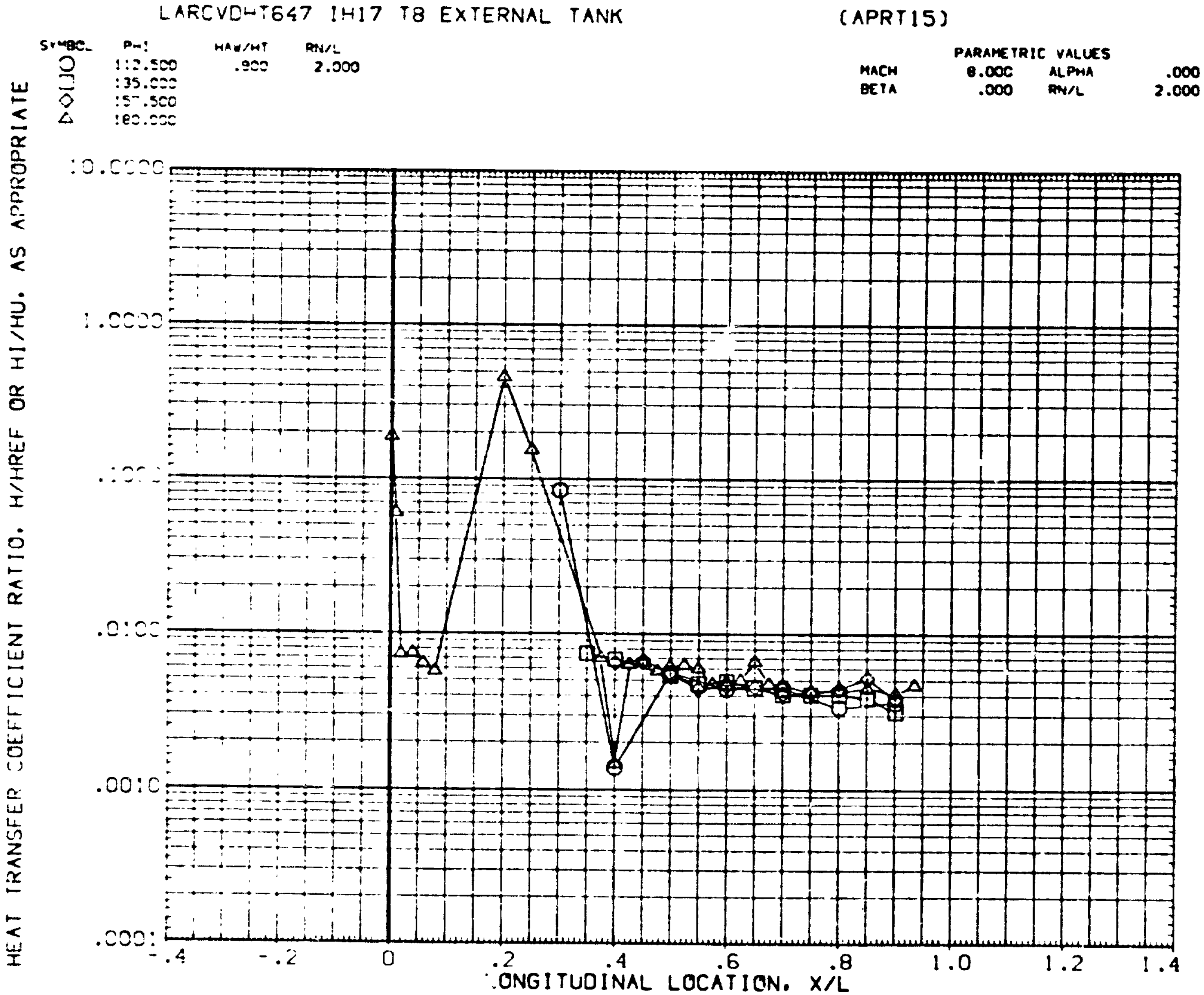


FIG. 42 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=2.0, ALPHA= 0.0)

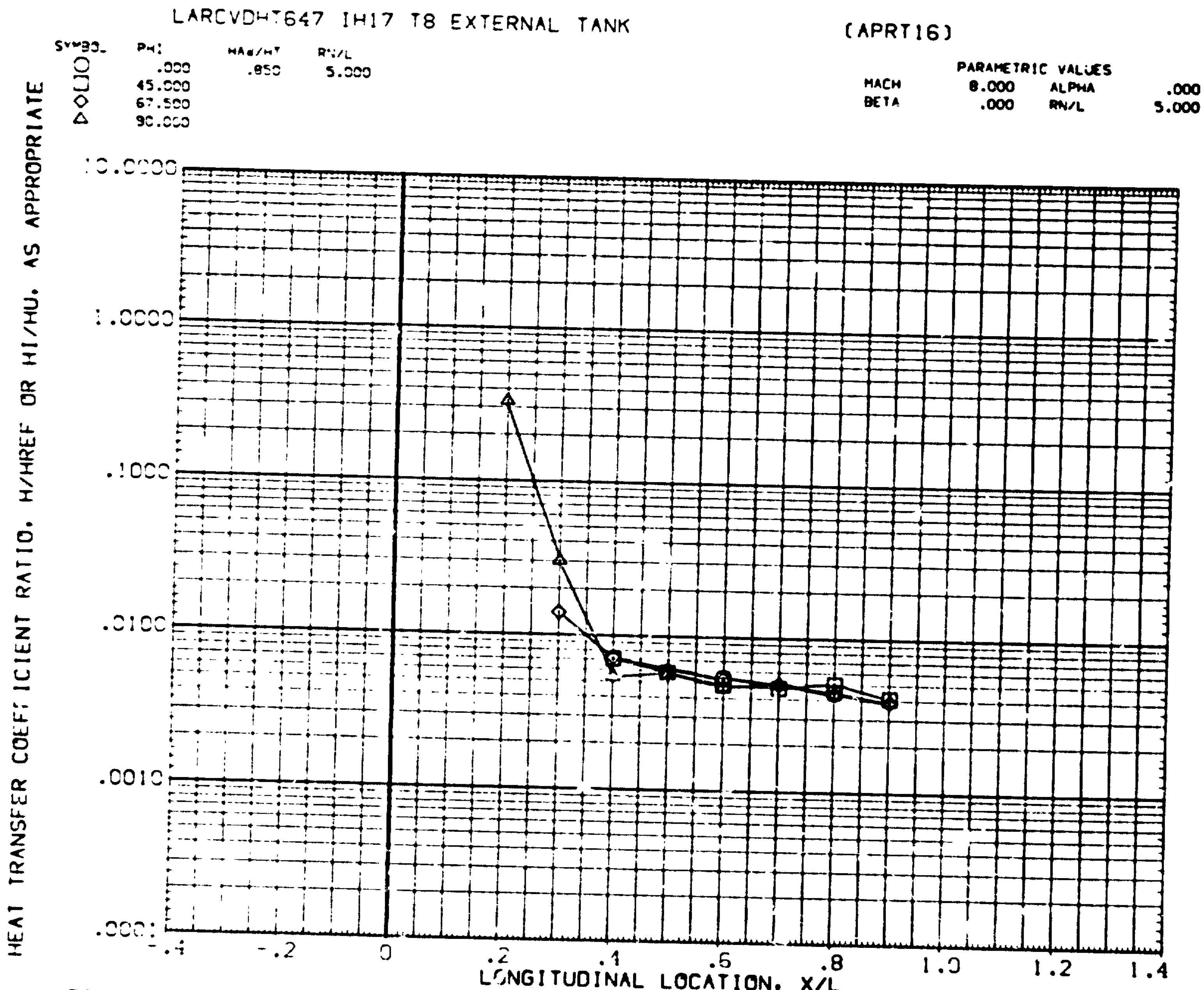


FIG. 43 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=5.0, ALPHA= 0.0)

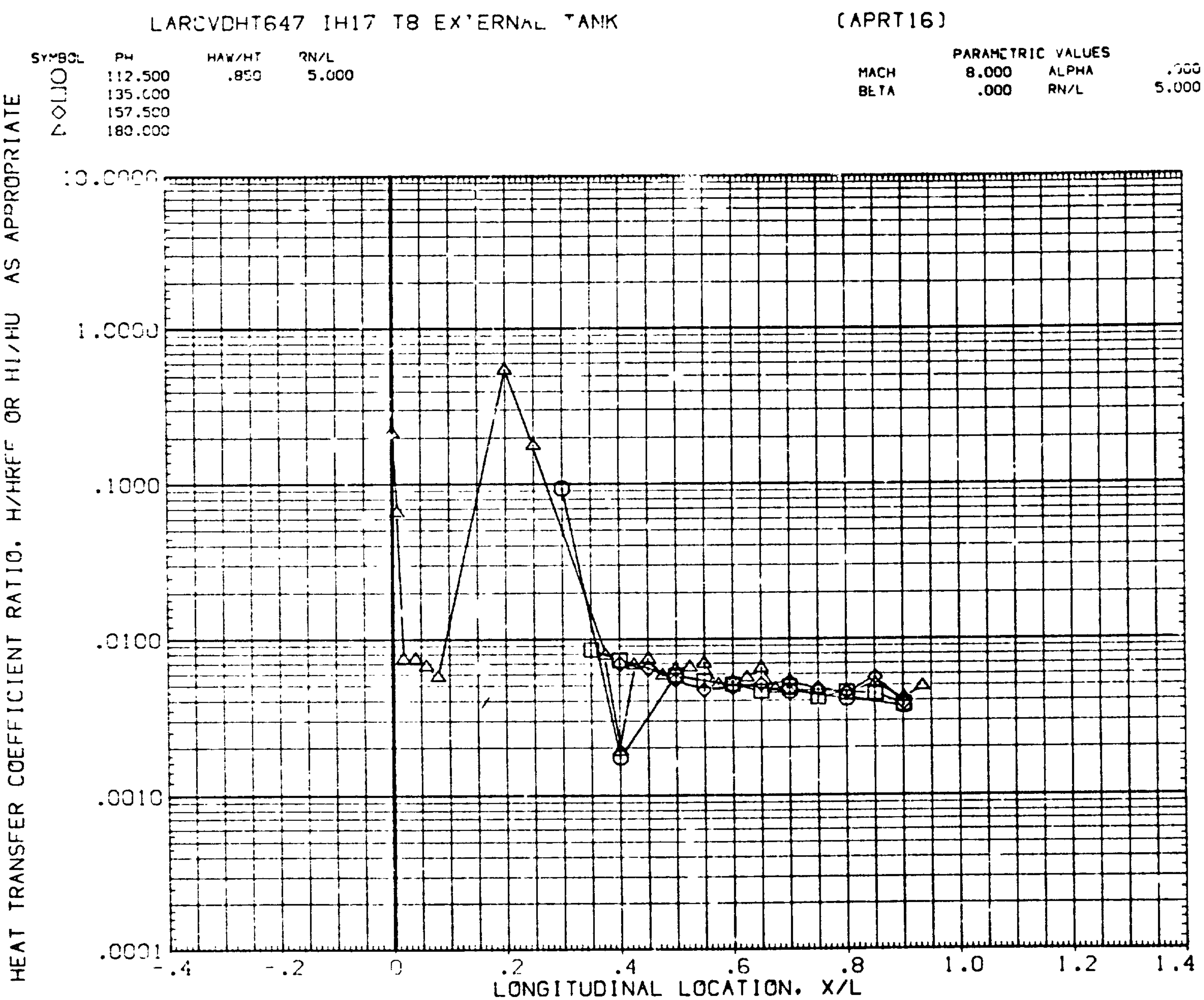


FIG. 43 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=5.0, ALPHA= 0.0)

LARCVDHT647 IH17 T8 EXTERNAL TANK (APRT16)

SYMBOL	PHI	HAW/HT	RN/L
○	.000	.900	5.000
□	45.000		
◇	67.500		
△	90.000		

PARAMETRIC VALUES

MACH	8.000	ALPHA	.000
BETA	.000	RN/L	5.000

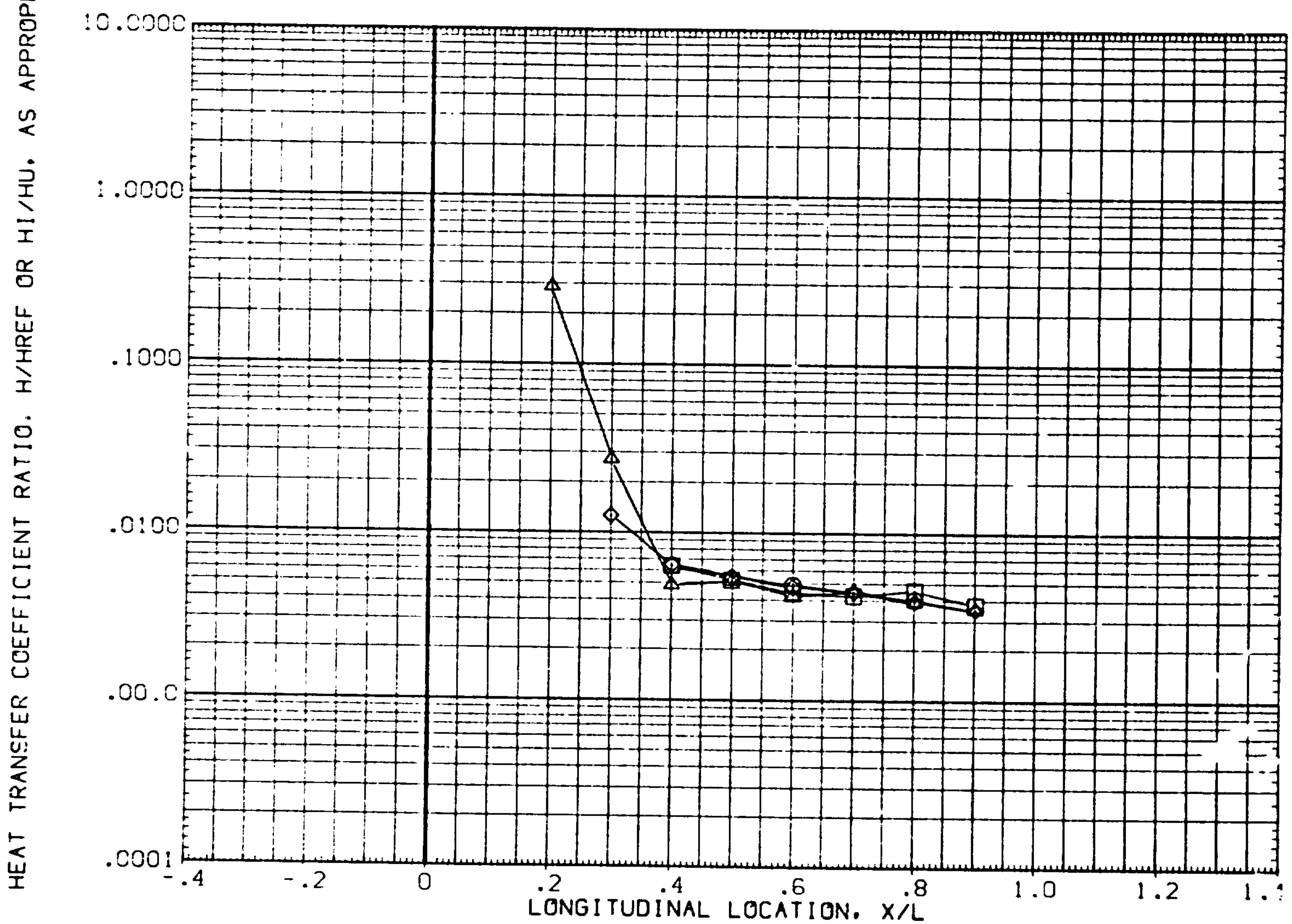


FIG. 43 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=5.0, ALPHA= 0.0)

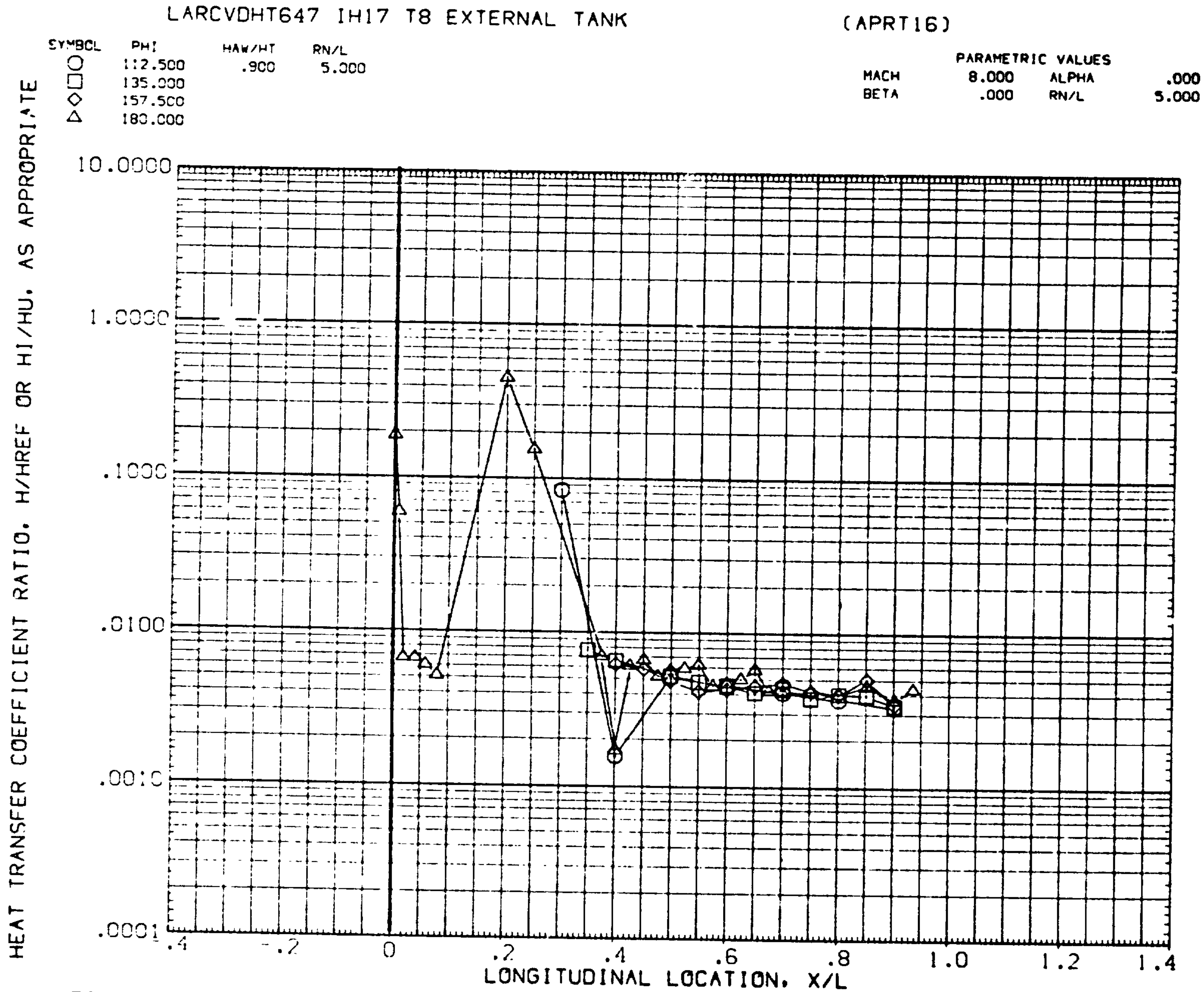


FIG. 43 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=5.0, ALPHA= 0.0)

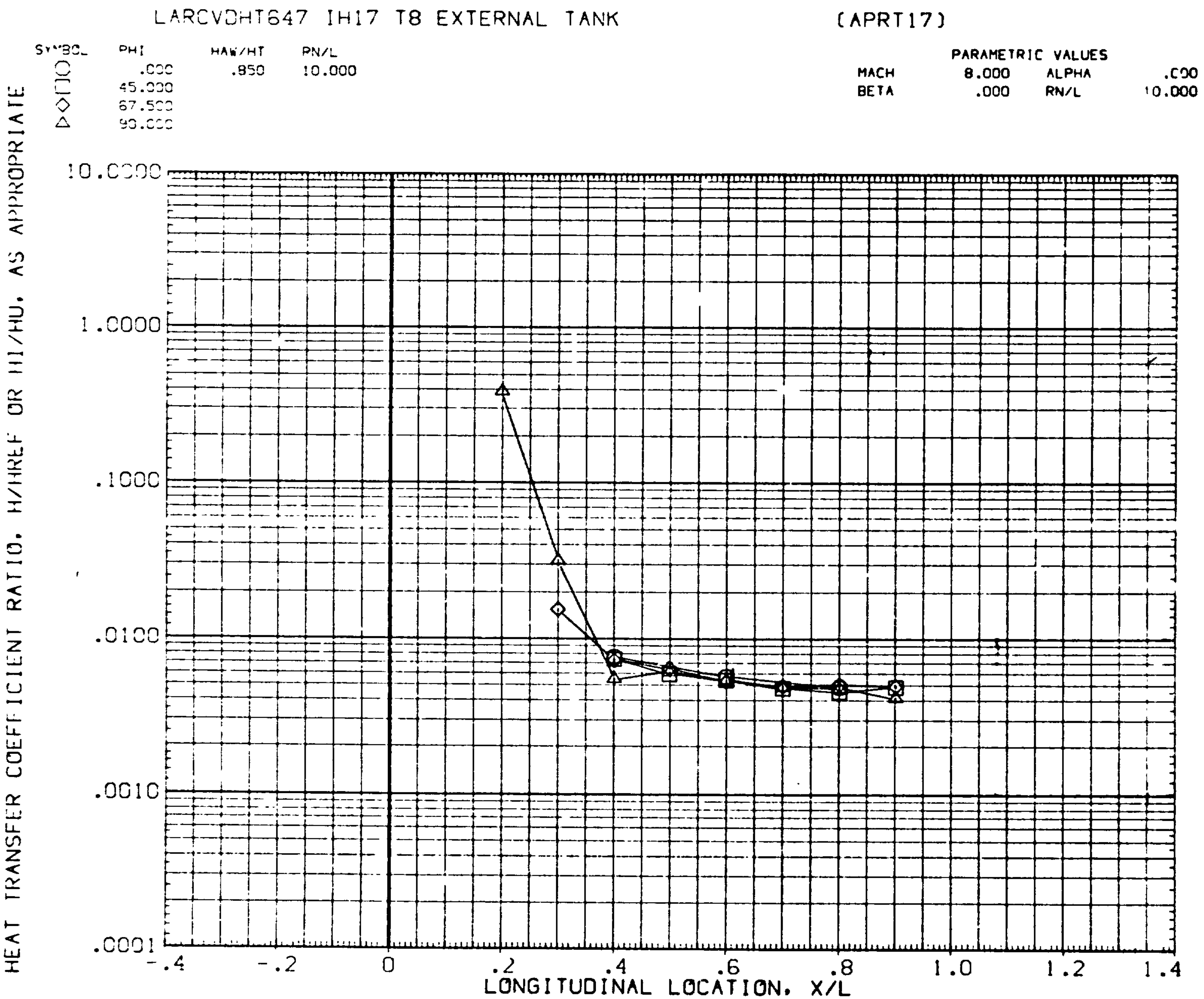


FIG. 44 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=10.0, ALPHA= 0.0)

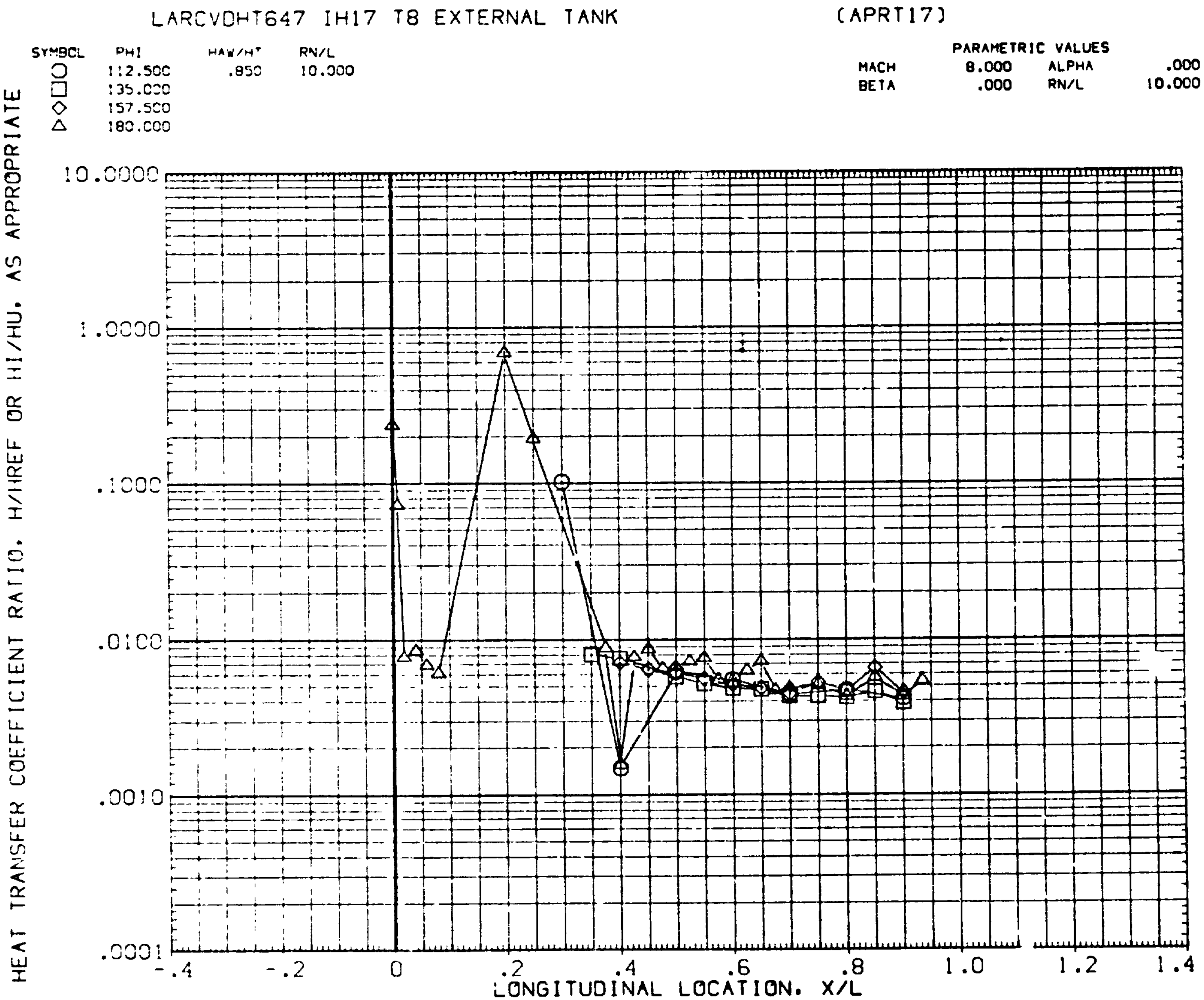


FIG. 44 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=10.0, ALPHA= 0.0)

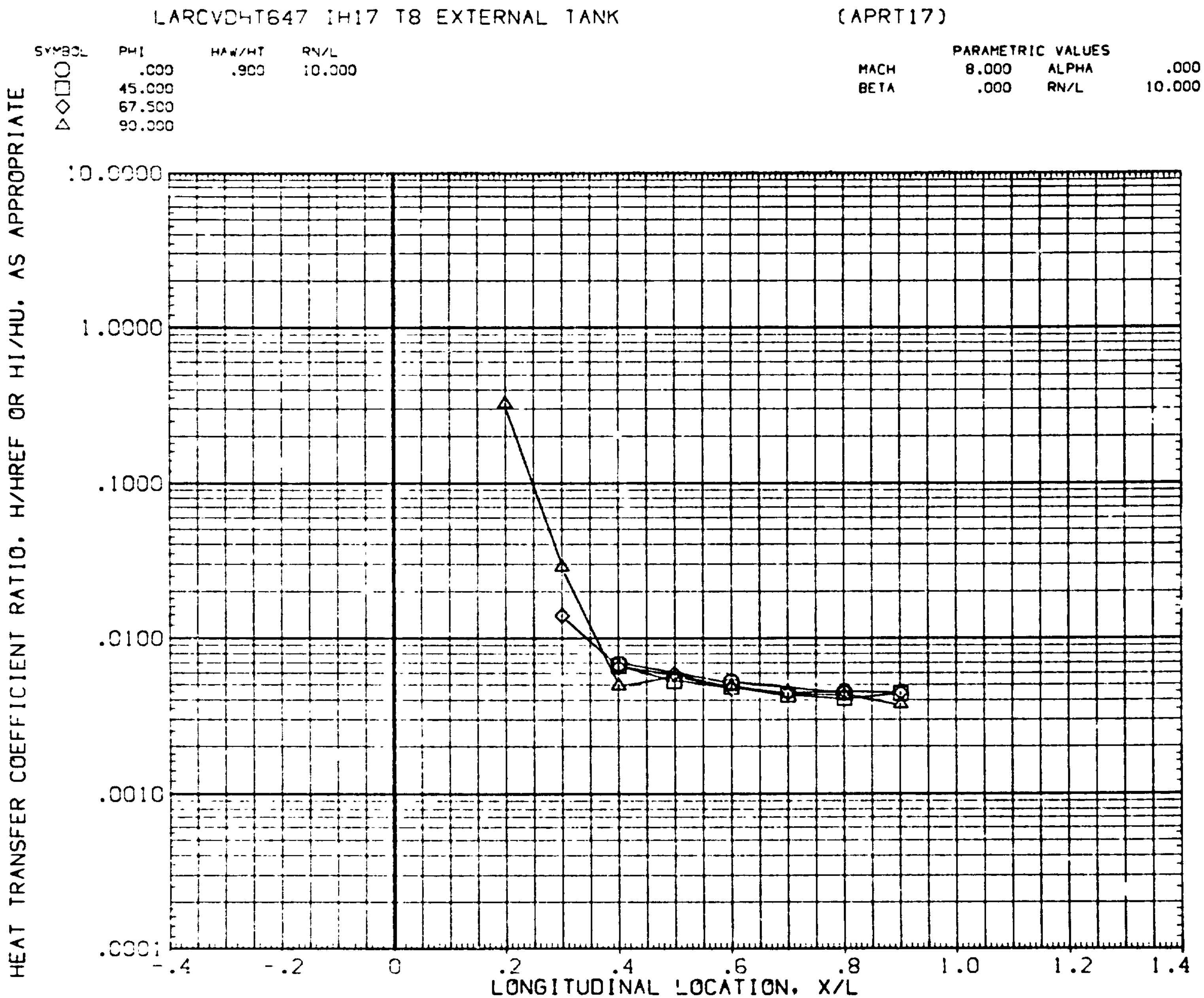


FIG. 44 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=10.0, ALPHA= 0.0)

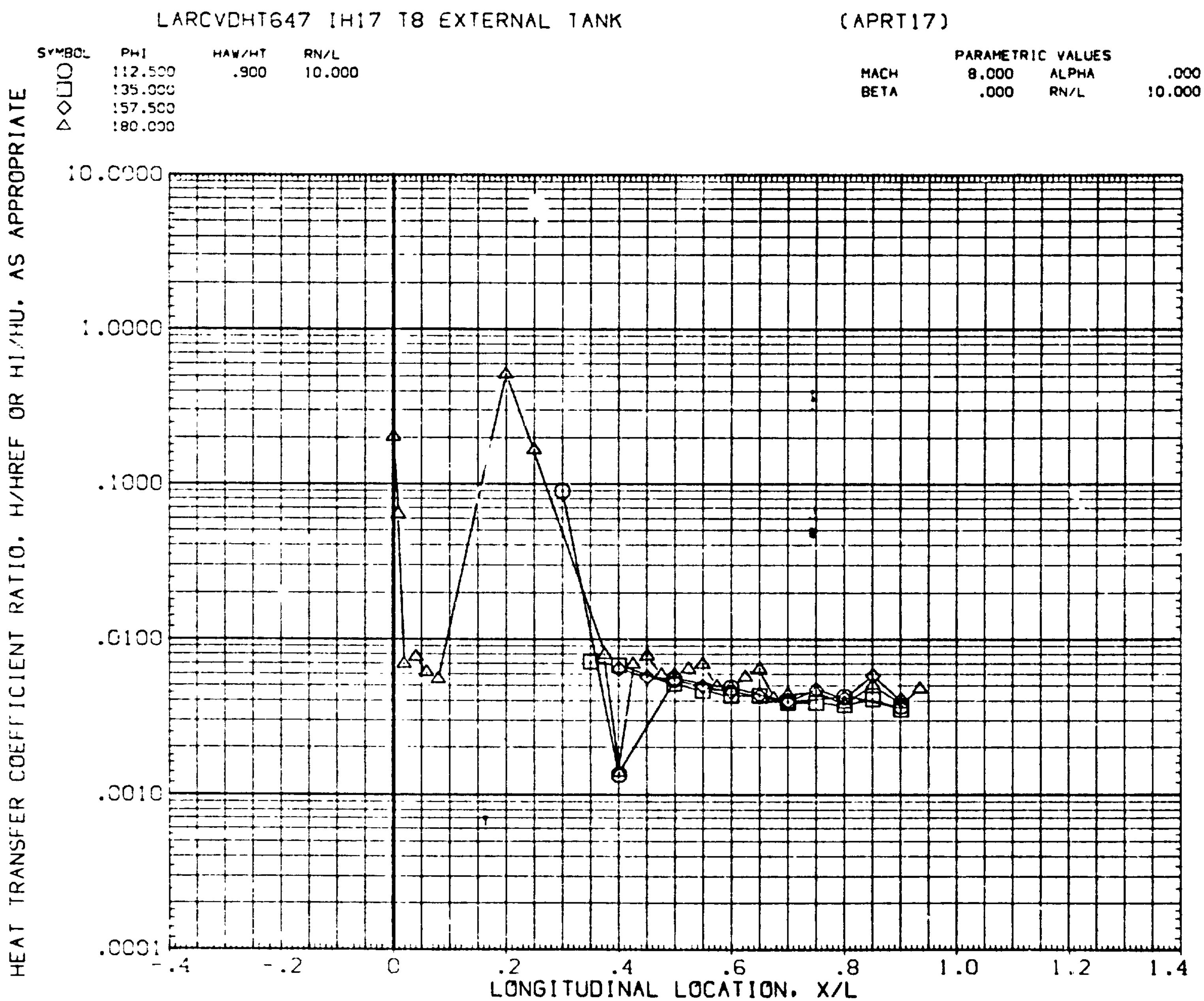


FIG. 44 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=10.0, ALPHA= 0.0)

LARCVDHT647 IH17 T8 EXTERNAL TANK (APRT18)

SYMBOL	PHI	HAW/HT	RN/L
○	.000	.850	.100
□	45.000		
◇	67.500		
△	90.000		

PARAMETRIC VALUES

MACH	8.000	ALPHA	-5.000
BETA	.000	RN/L	.100

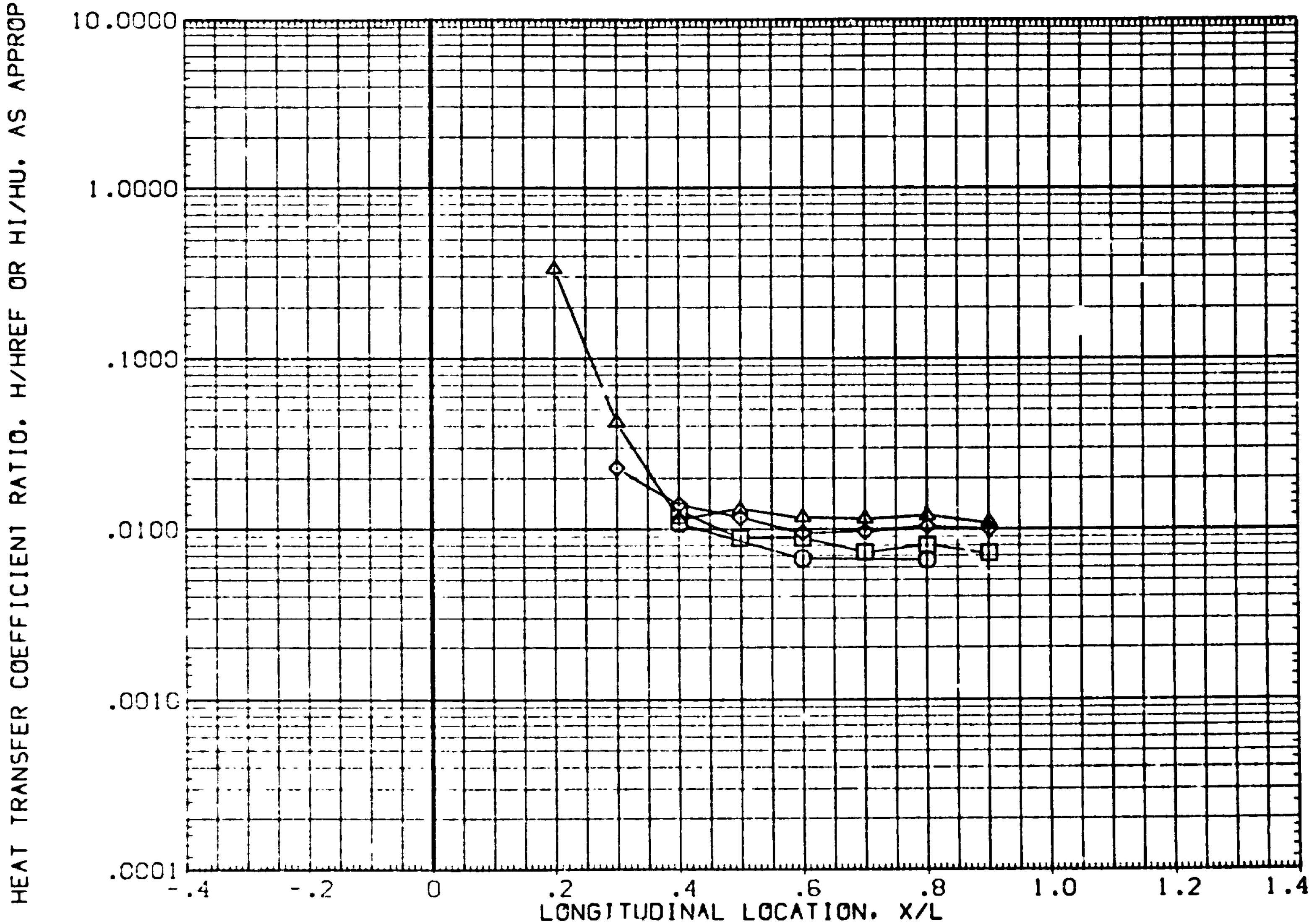


FIG. 45 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=0.1, ALPHA=-5.0)

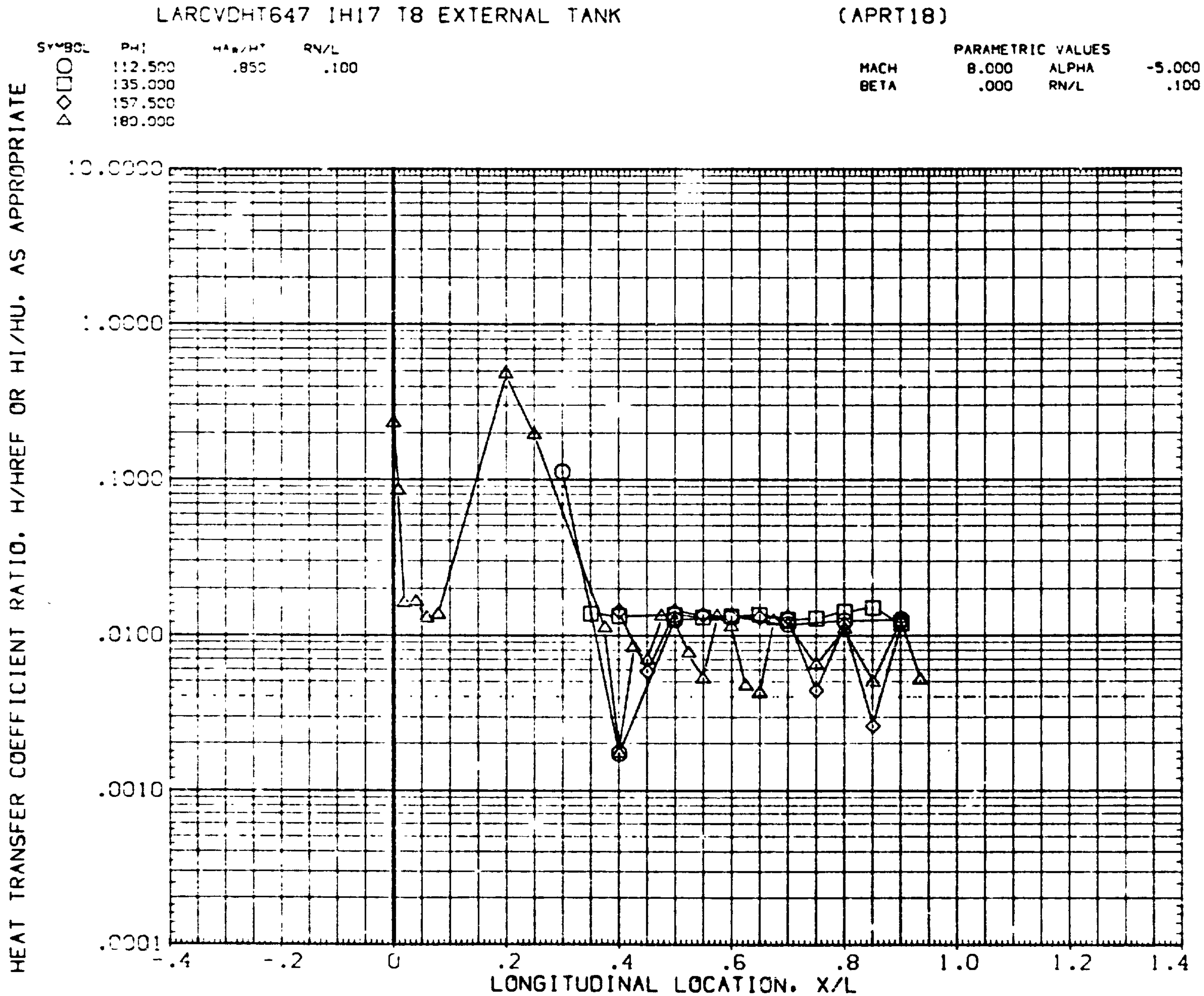


FIG. 45 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=0.1, ALPHA=-5.0)

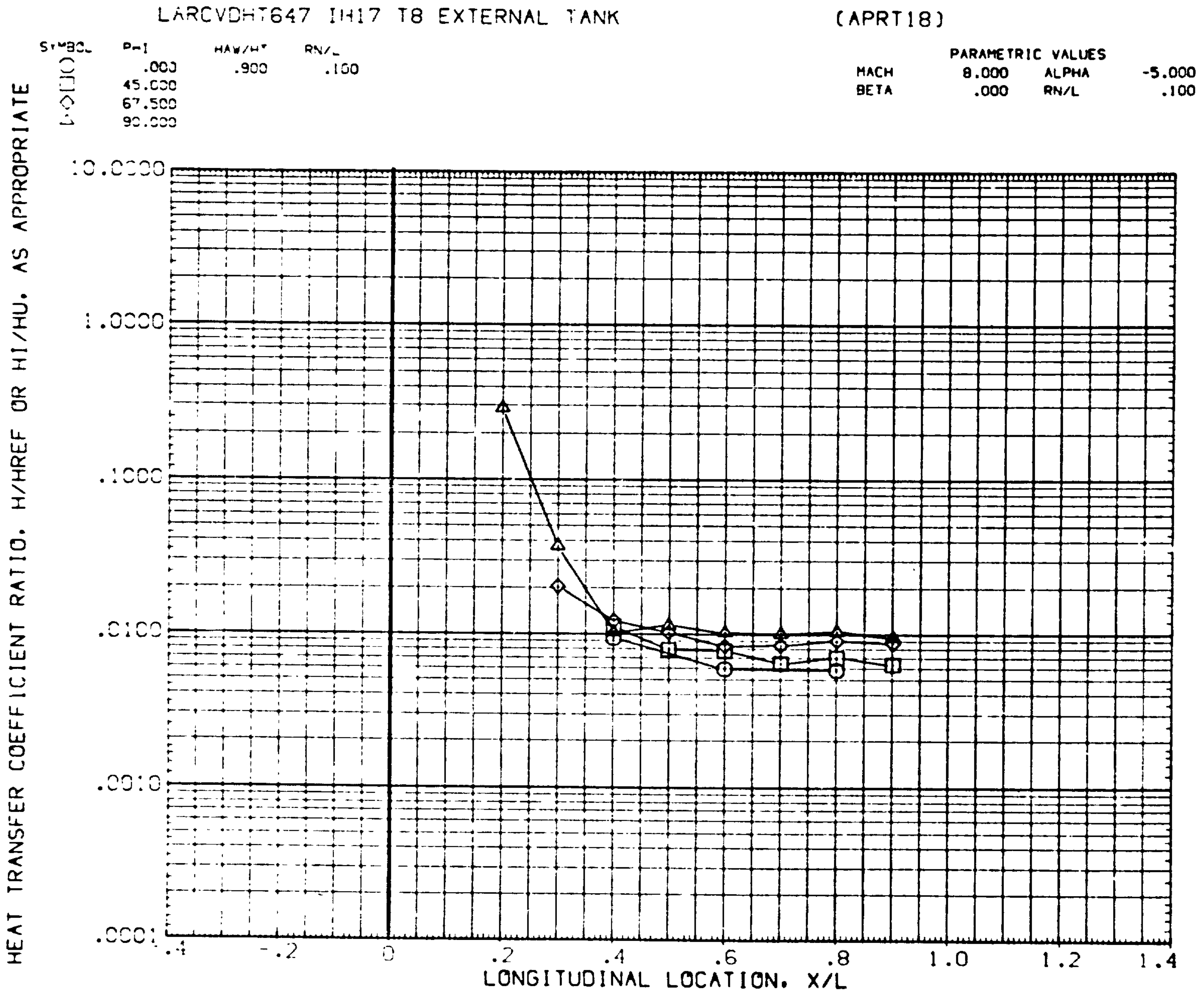


FIG. 45 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=0.1, ALPHA=-5.0)

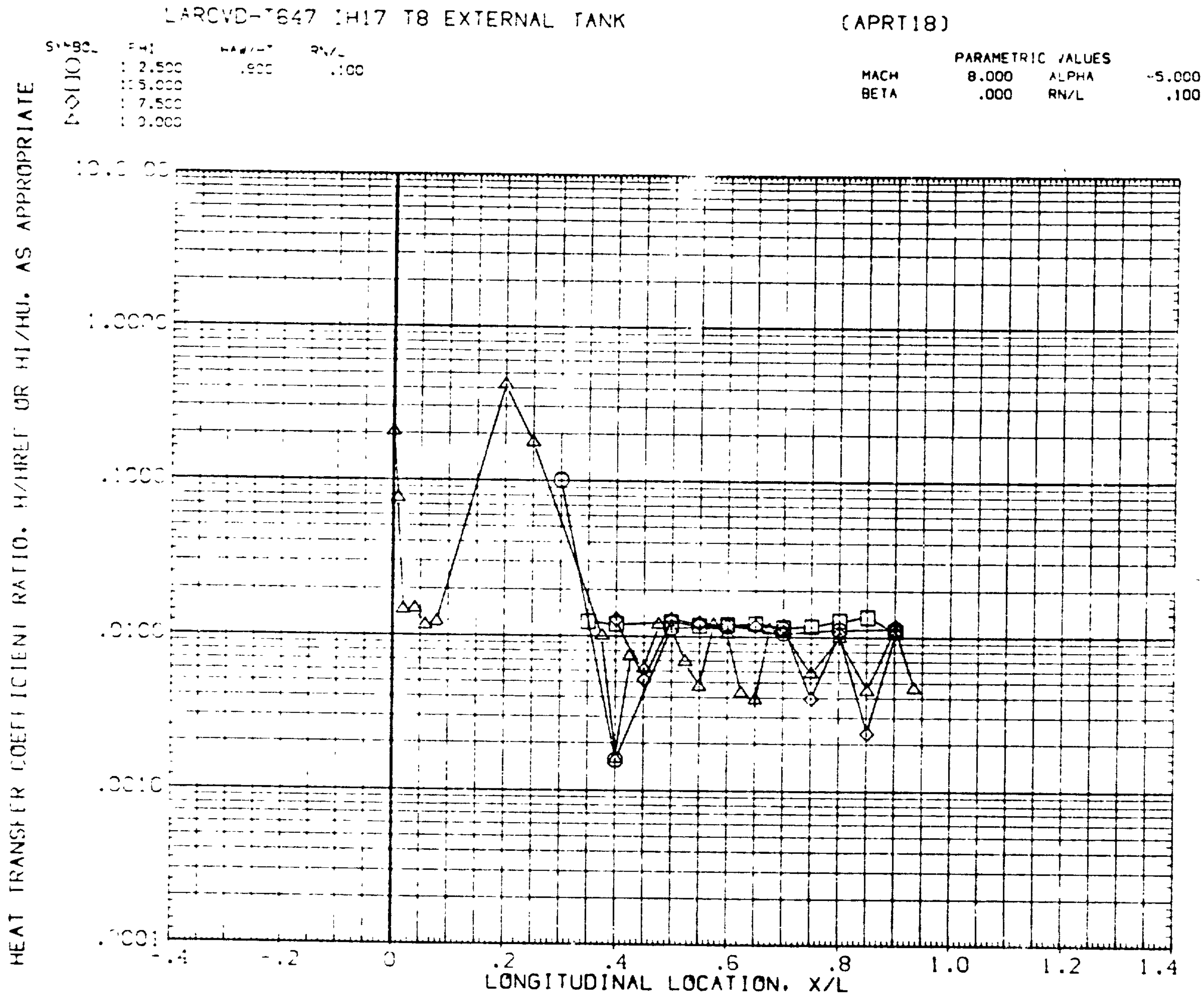


FIG. 45 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=0.1, ALPHA=-5.0)

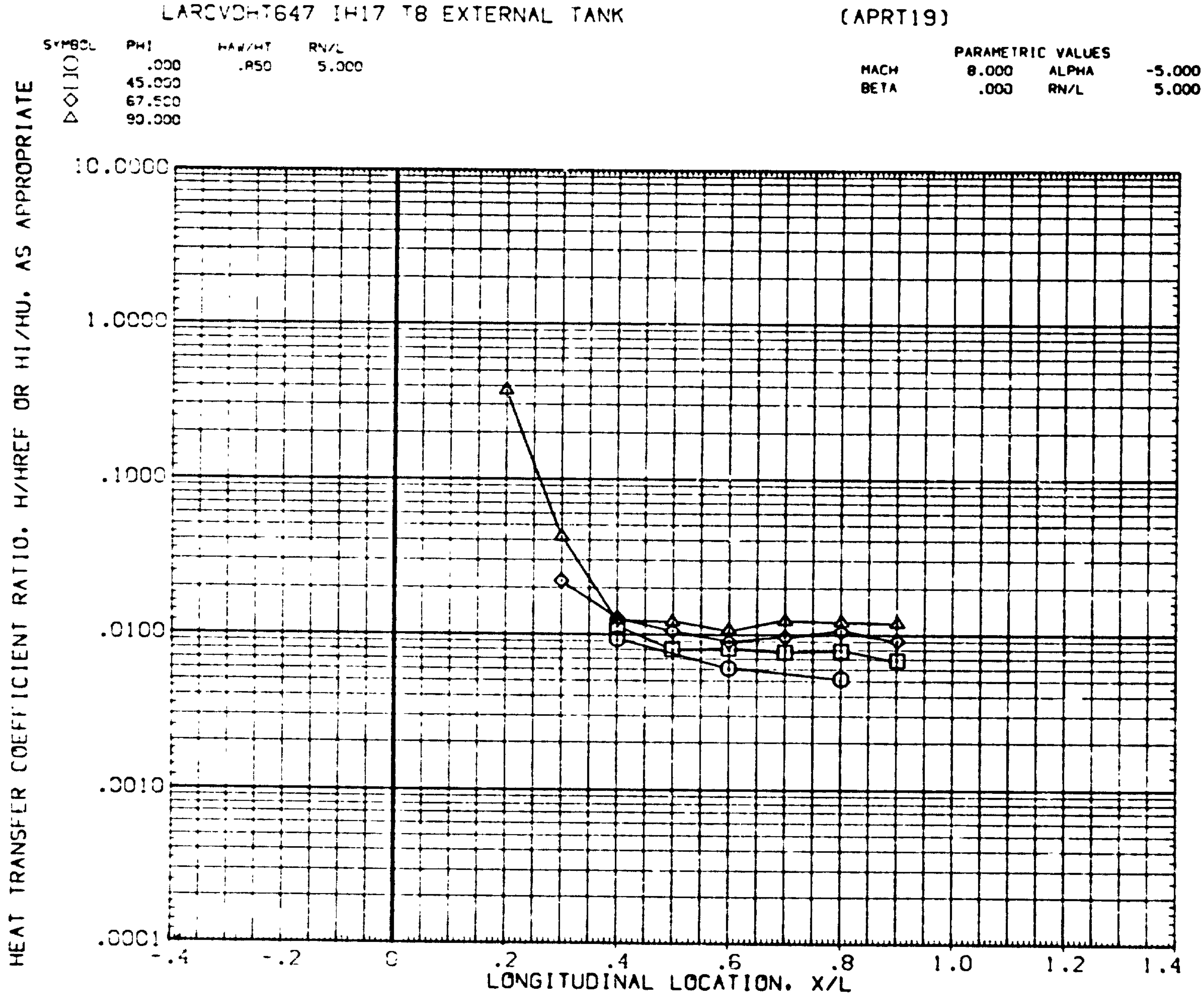


FIG. 46 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=5.0, ALPHA=-5.0)

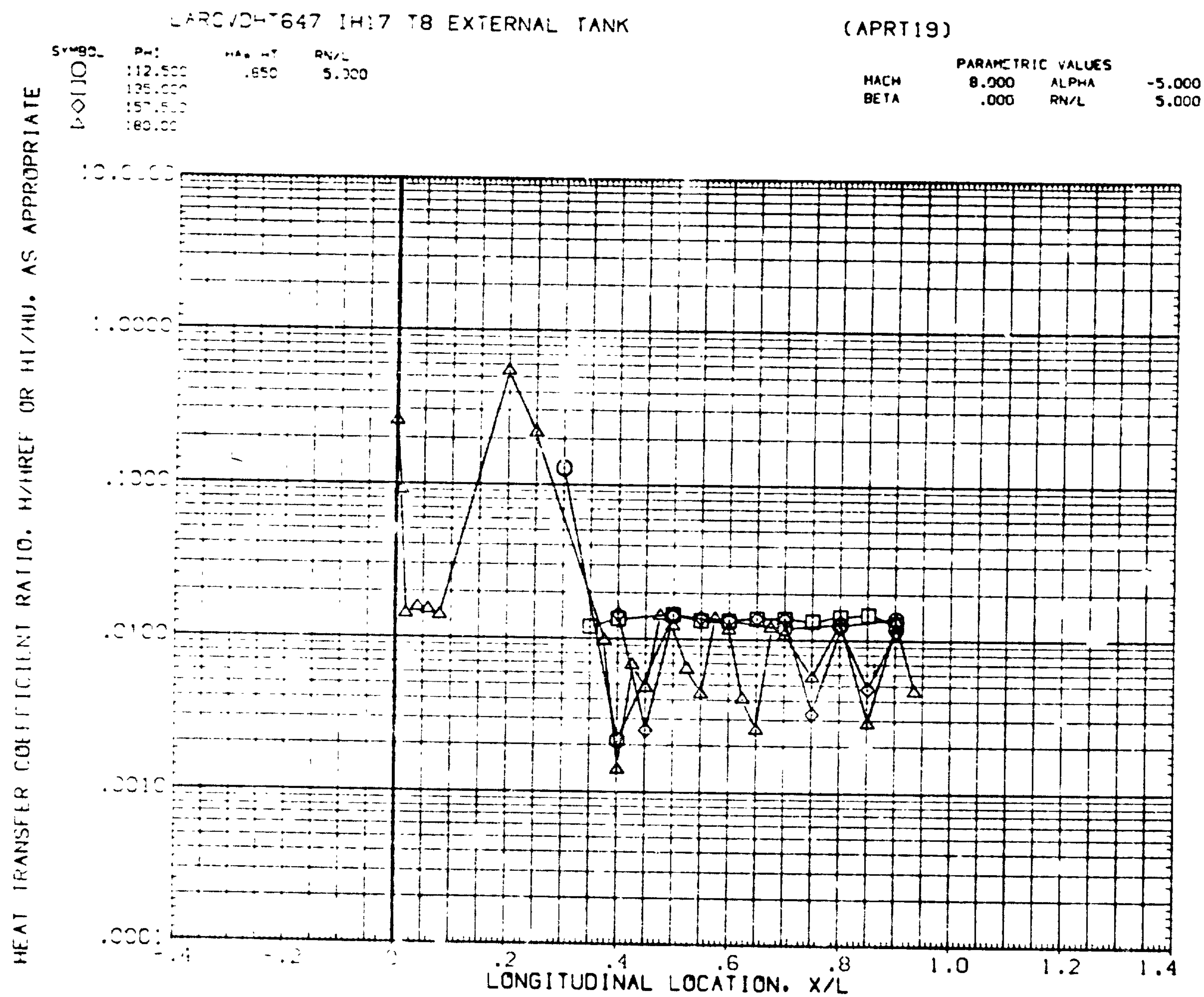


FIG. 46 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=5.0, ALPHA=-5.0)

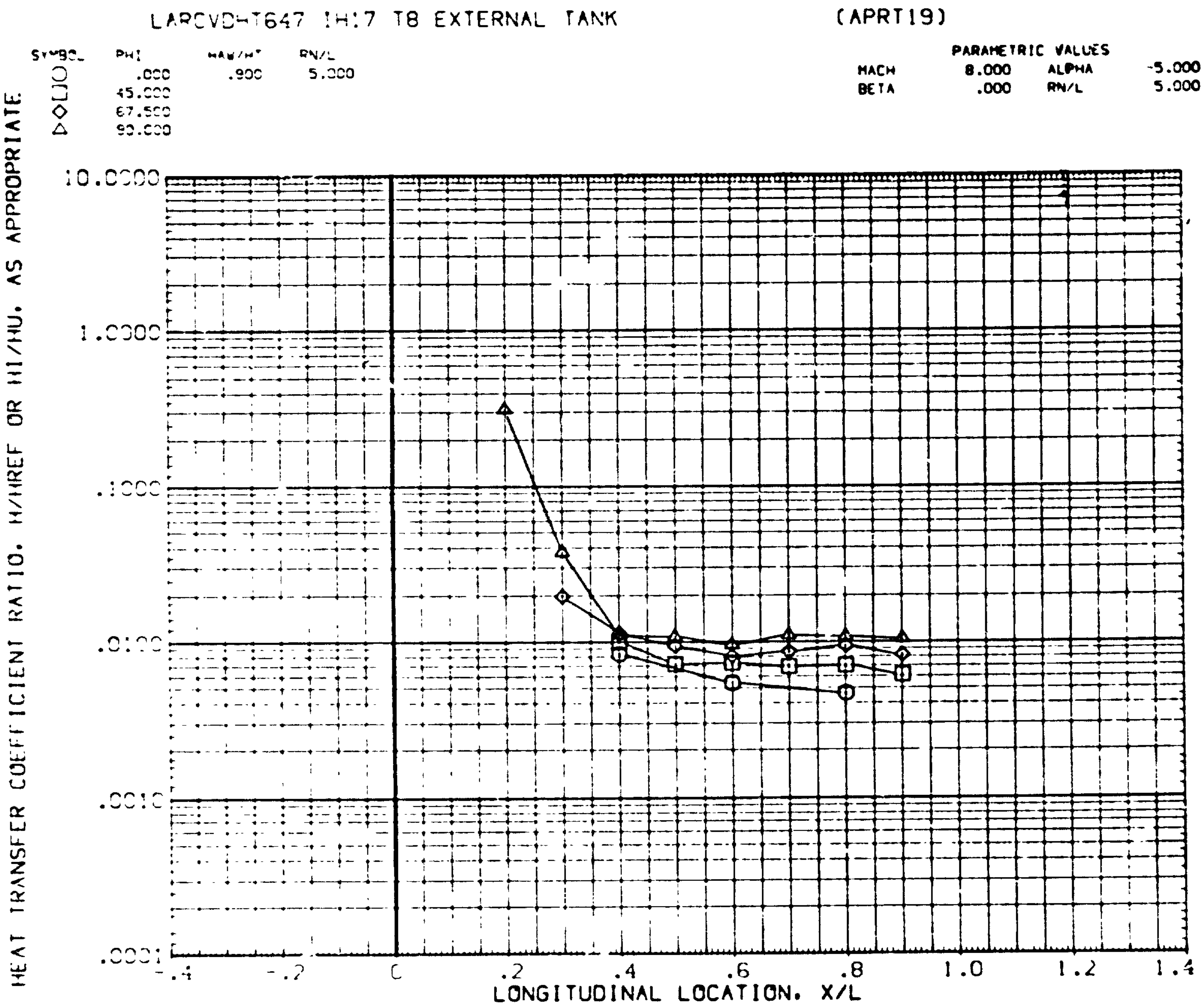


FIG. 46 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=5.0, ALPHA=-5.0)

LARCVDHT647 IH17 T8 EXTERNAL TANK (APRT19)

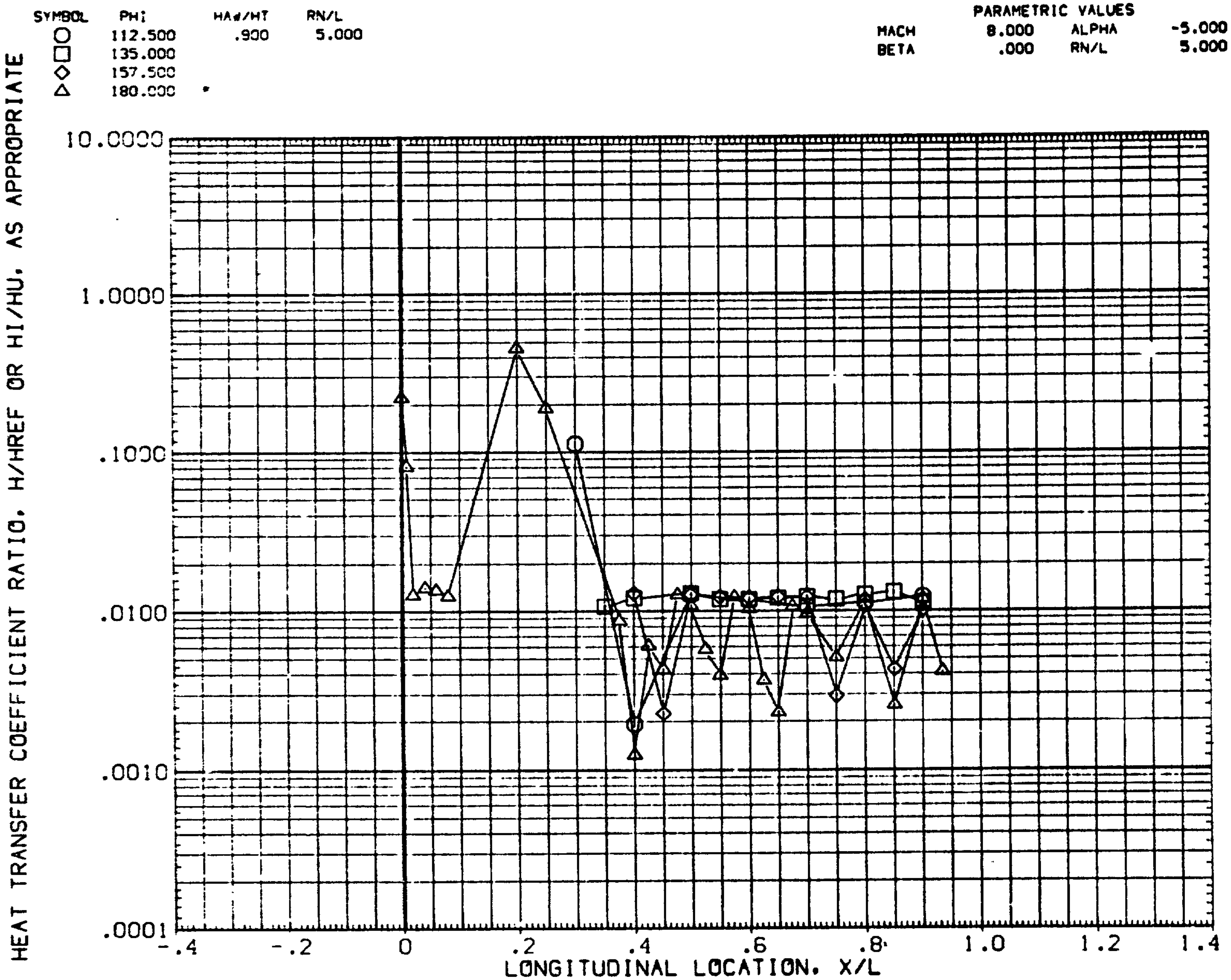


FIG. 46 EXTERNAL TANK HEAT TRANSFER RATIO (RN/L=5.0, ALPHA=-5.0)

C-5

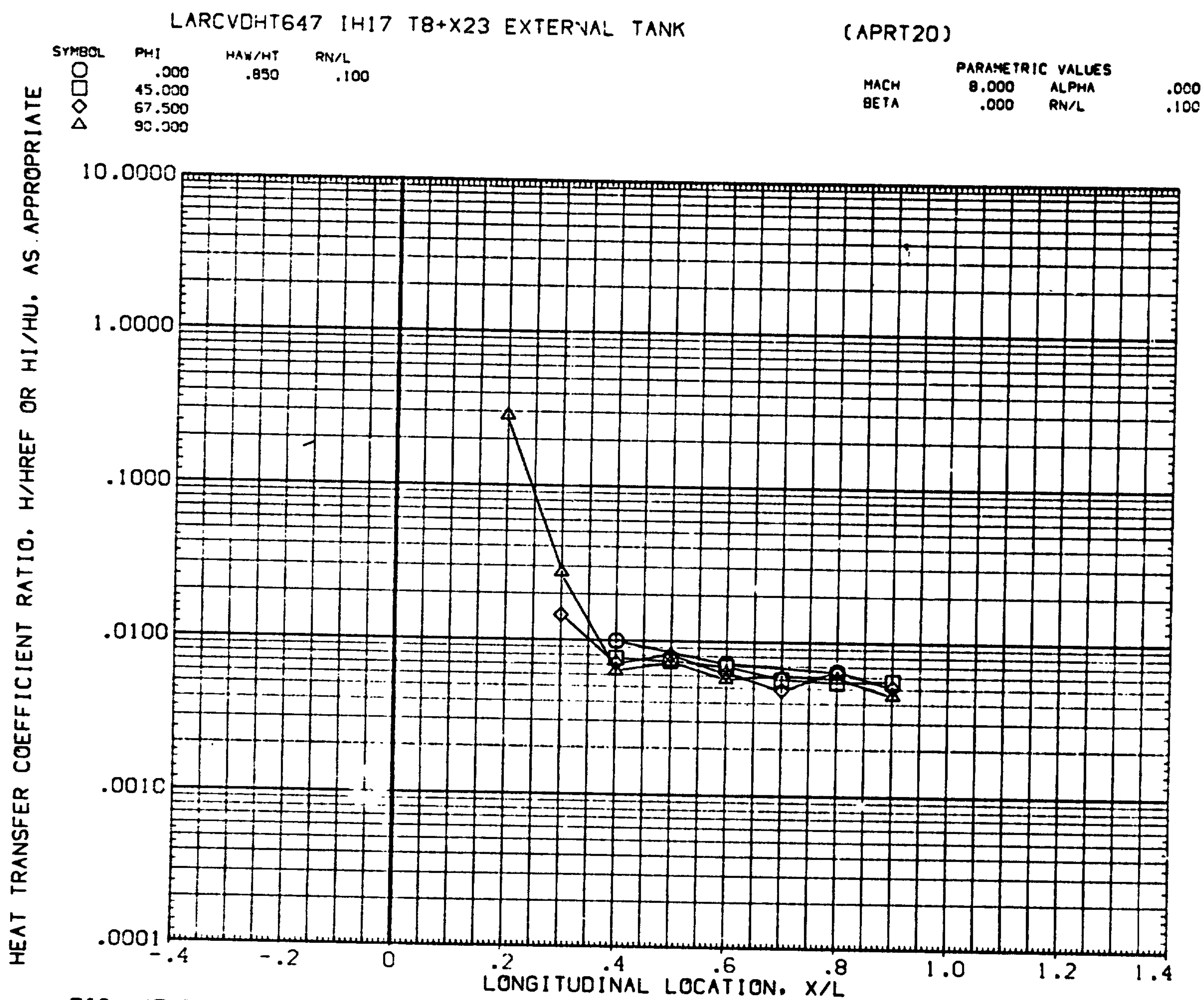


FIG. 47 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=0.1, ALPHA= 0.0)

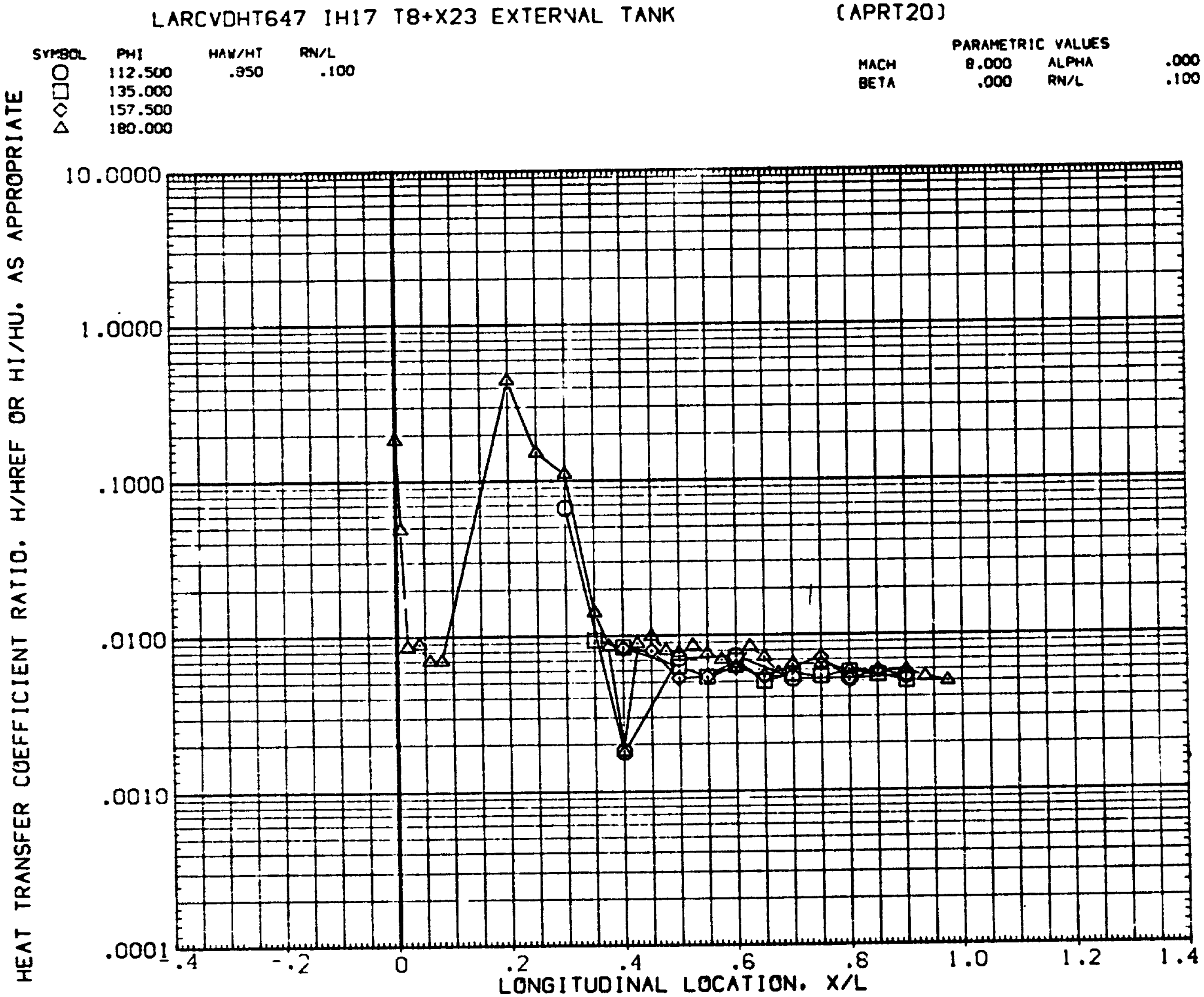


FIG. 47 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=0.1, ALPHA= 0.0)

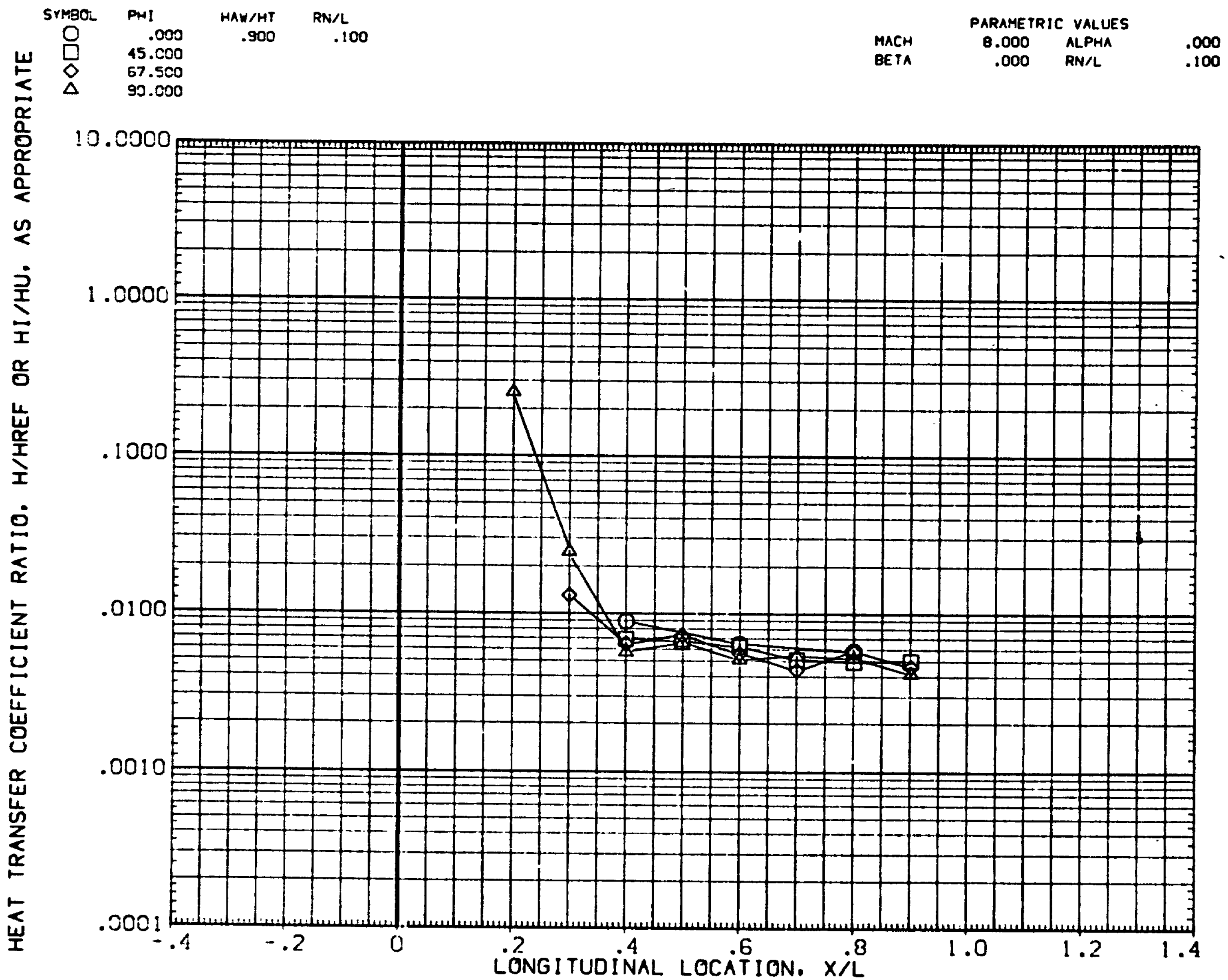


FIG. 47 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=0.1, ALPHA= 0.0)

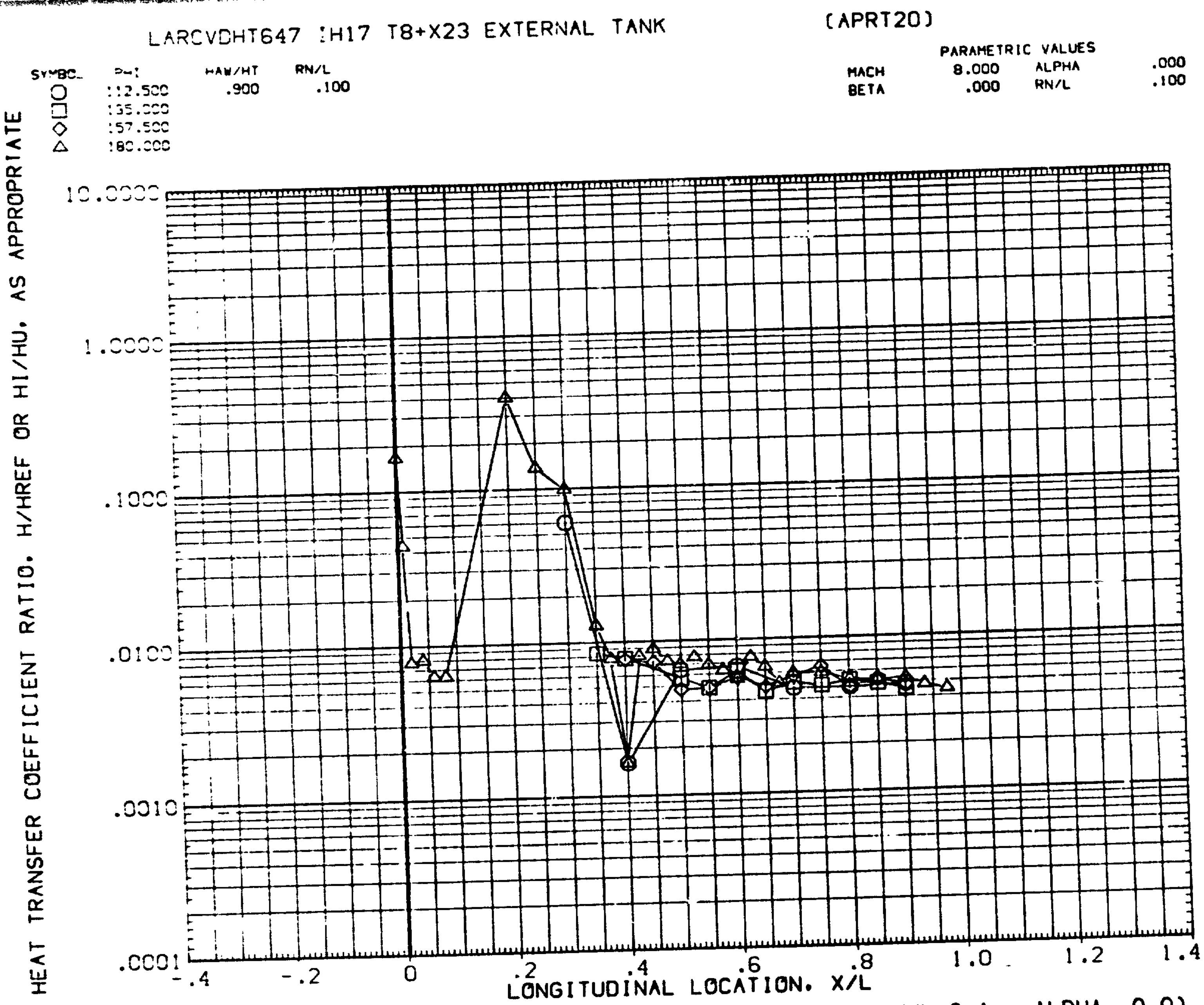


FIG. 47 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=0.1, ALPHA= 0.0)

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (APRT21)

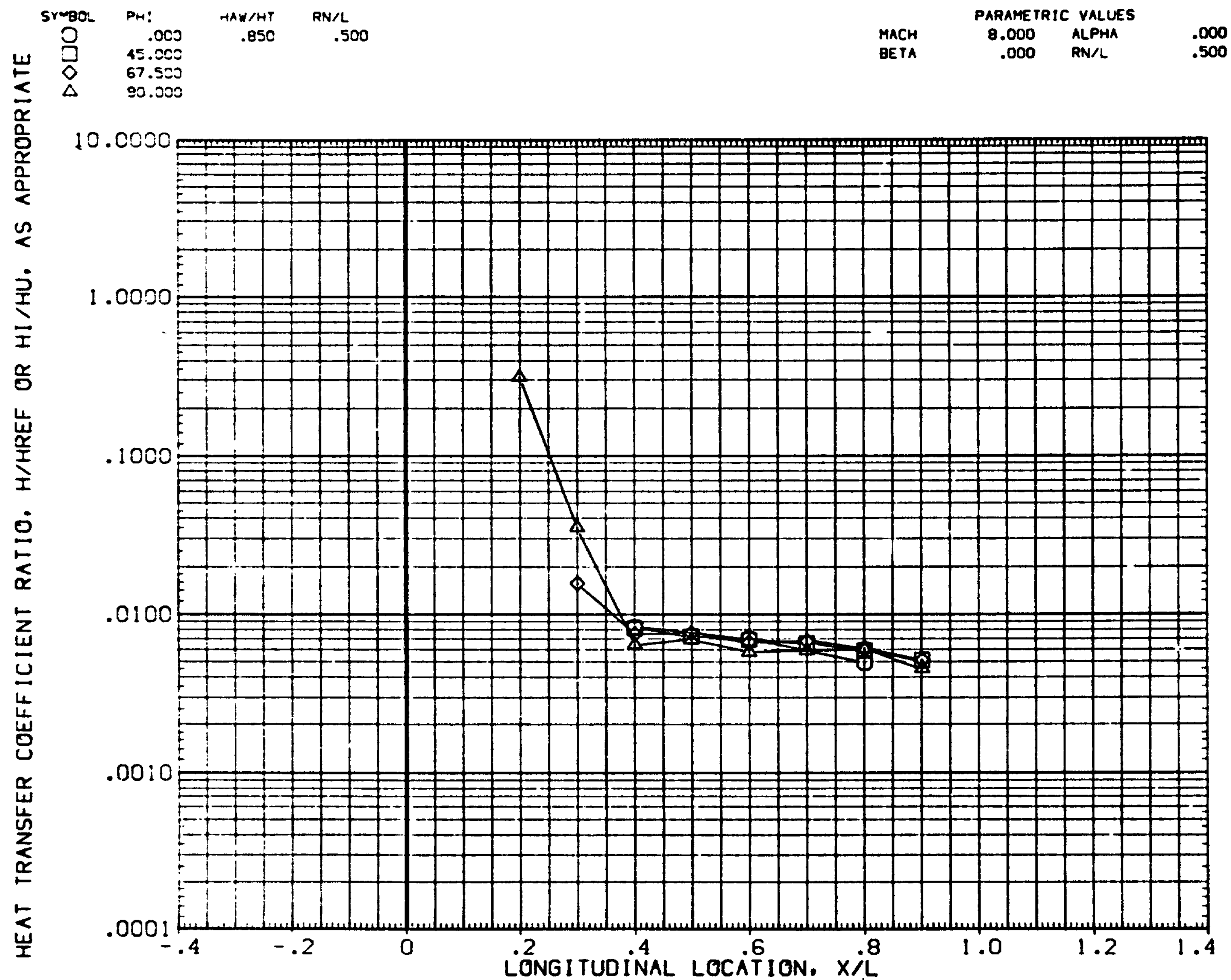


FIG. 48 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=0.5, ALPHA= 0.0)

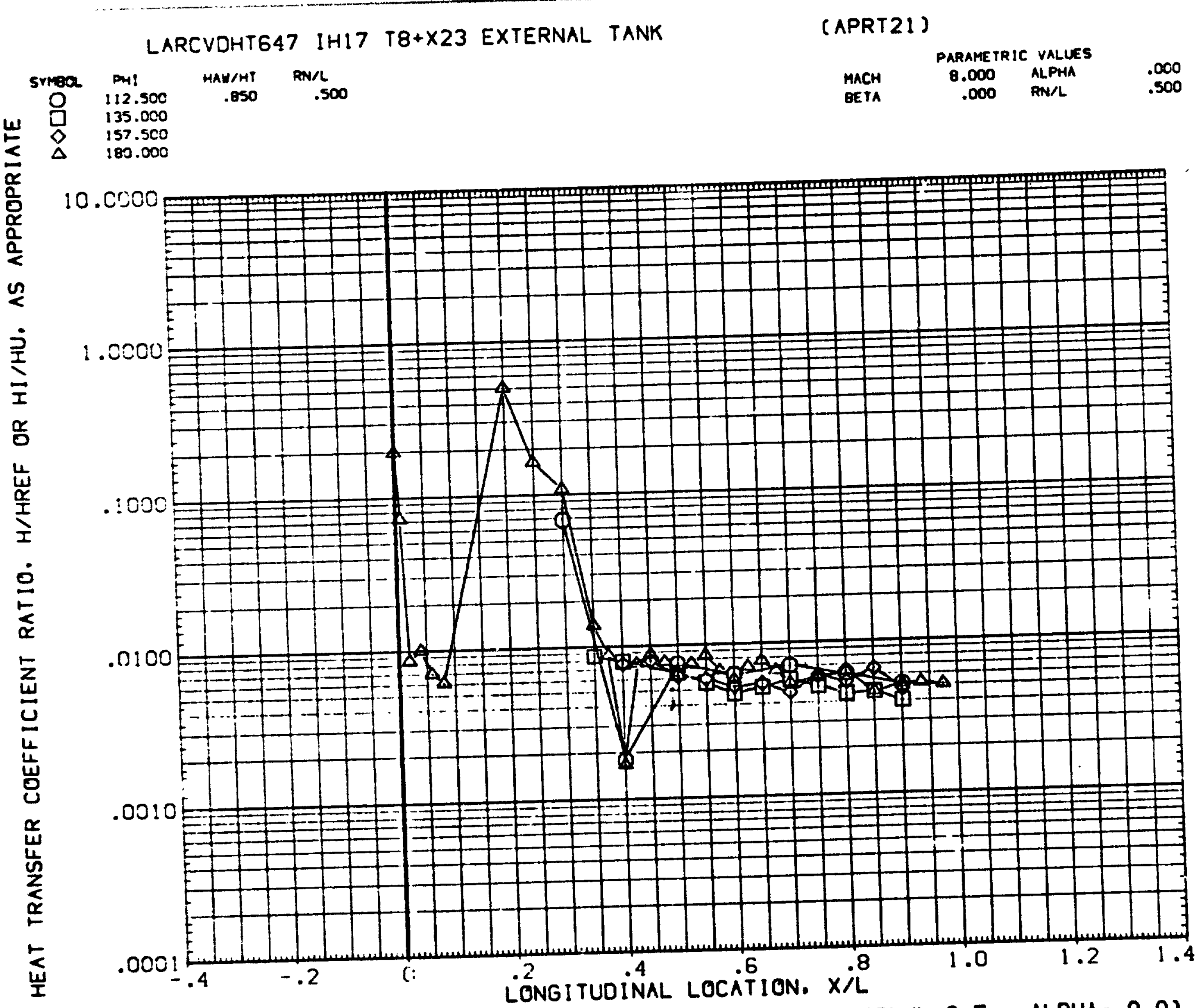


FIG. 48 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=0.5, ALPHA= 0.0)

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (APRT21)

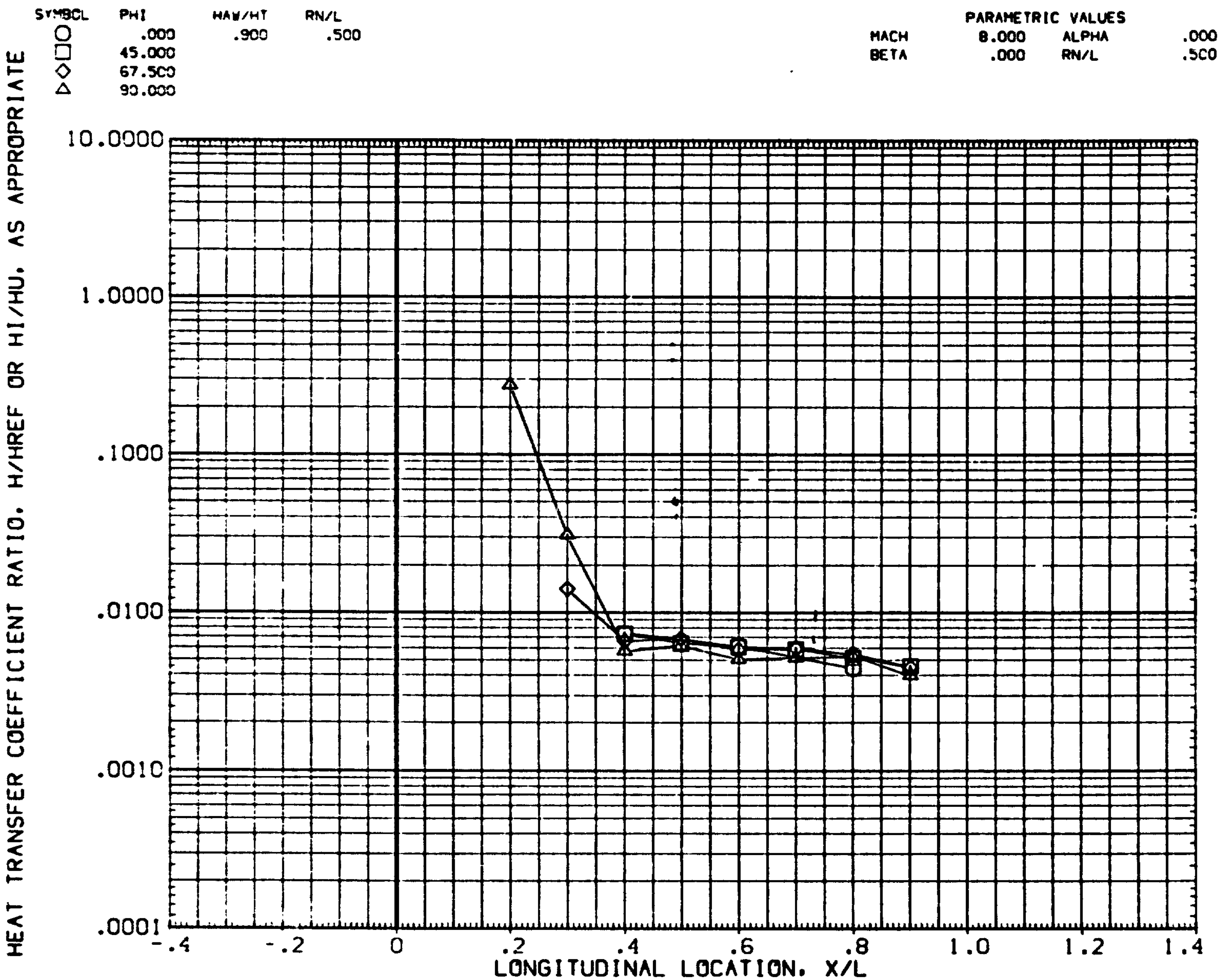


FIG. 48 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=0.5, ALPHA= 0.0)

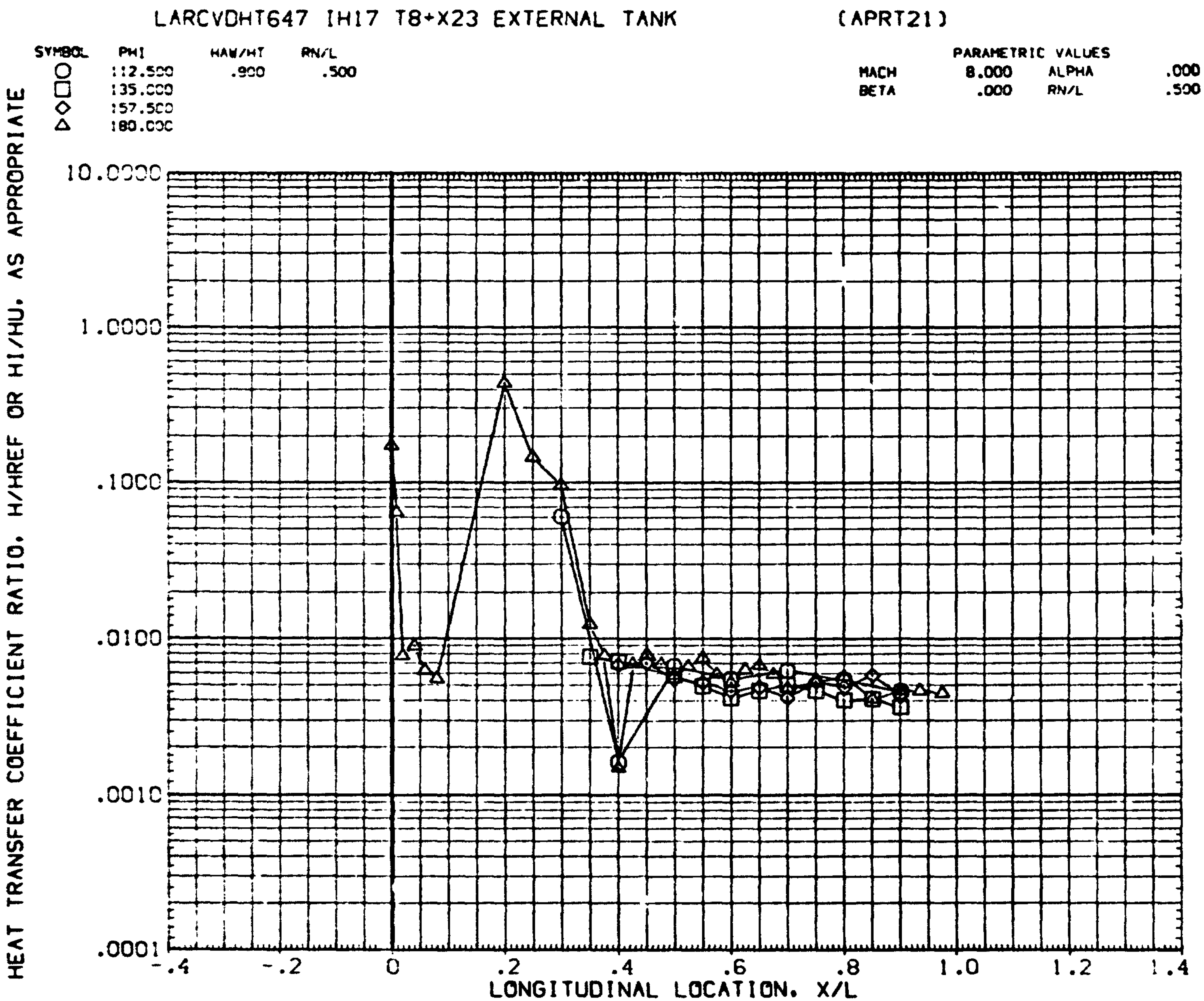


FIG. 48 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=0.5, ALPHA= 0.0)

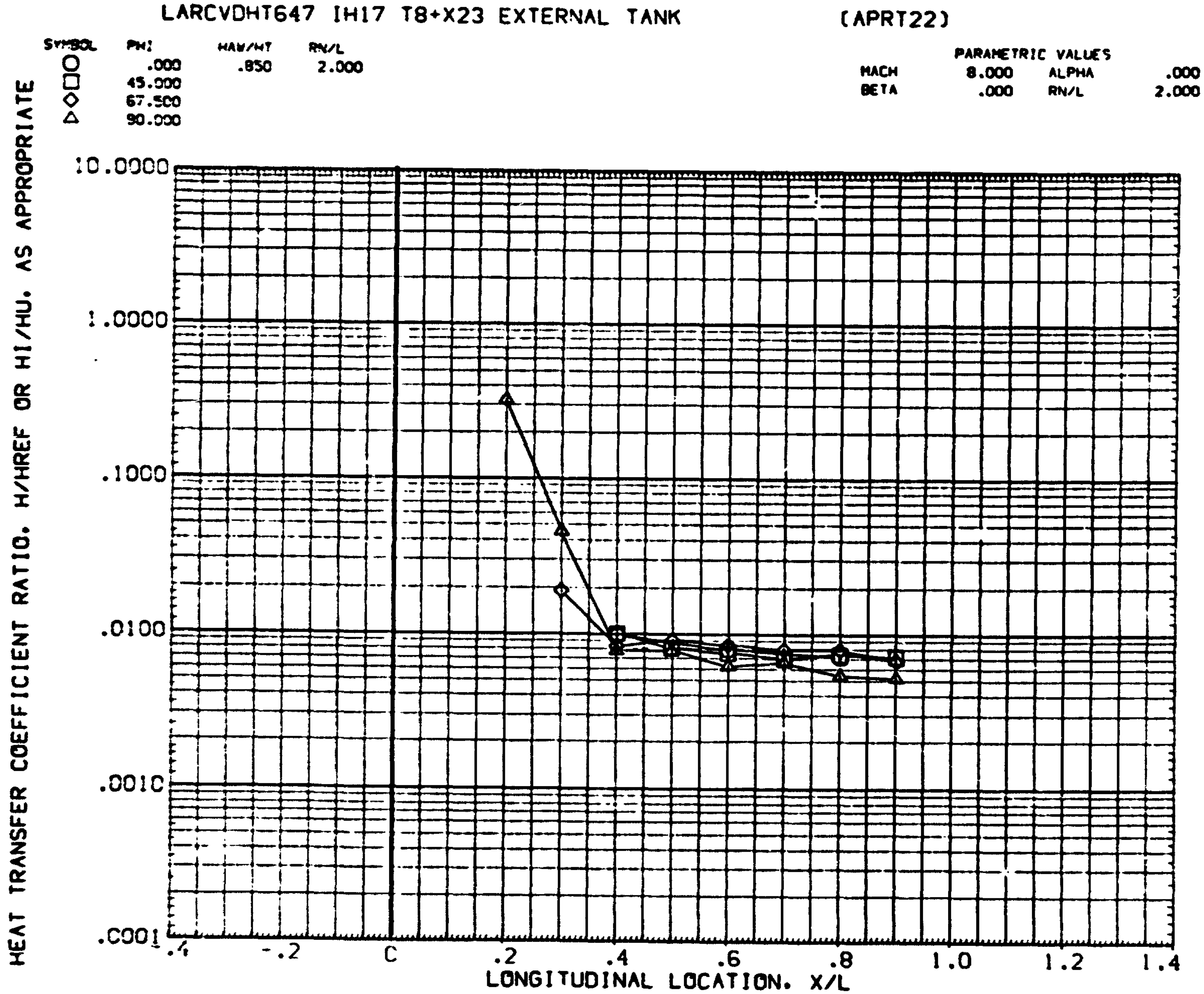


FIG. 49 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=2.0, ALPHA= 0.0)

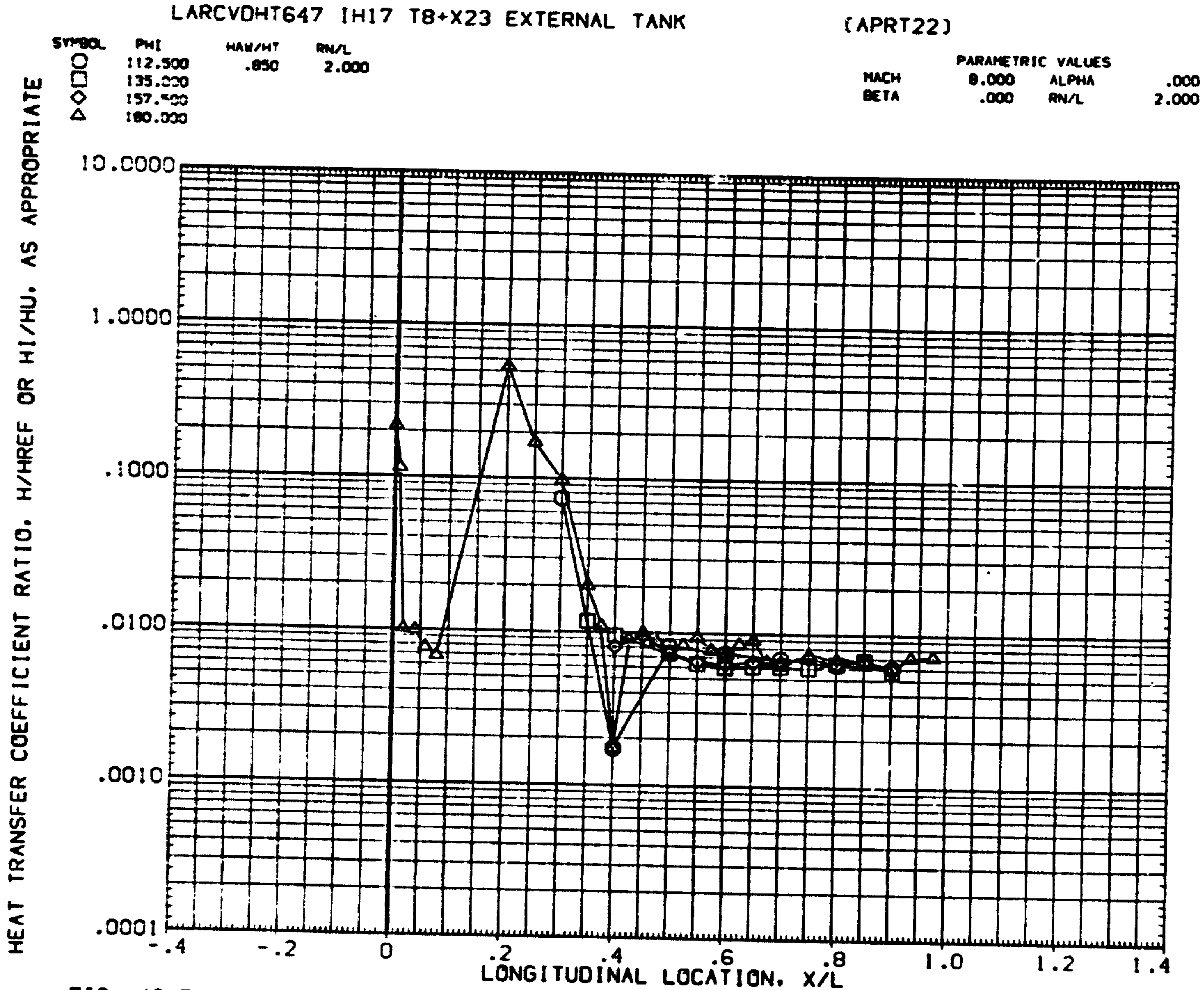


FIG. 49 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=2.0 ALPHA= 0.0)

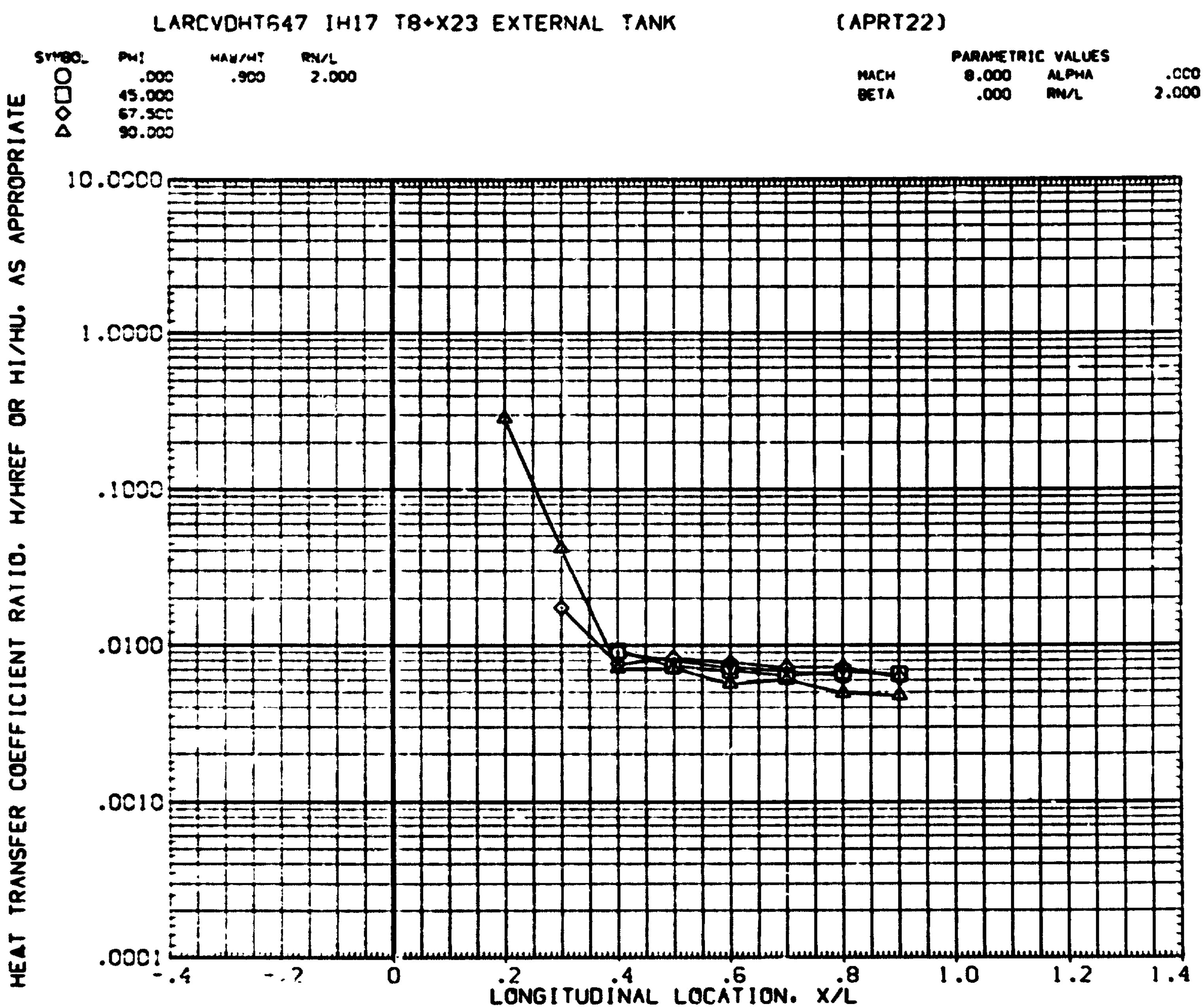


FIG. 49 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=2.0, ALPHA= 0.0)

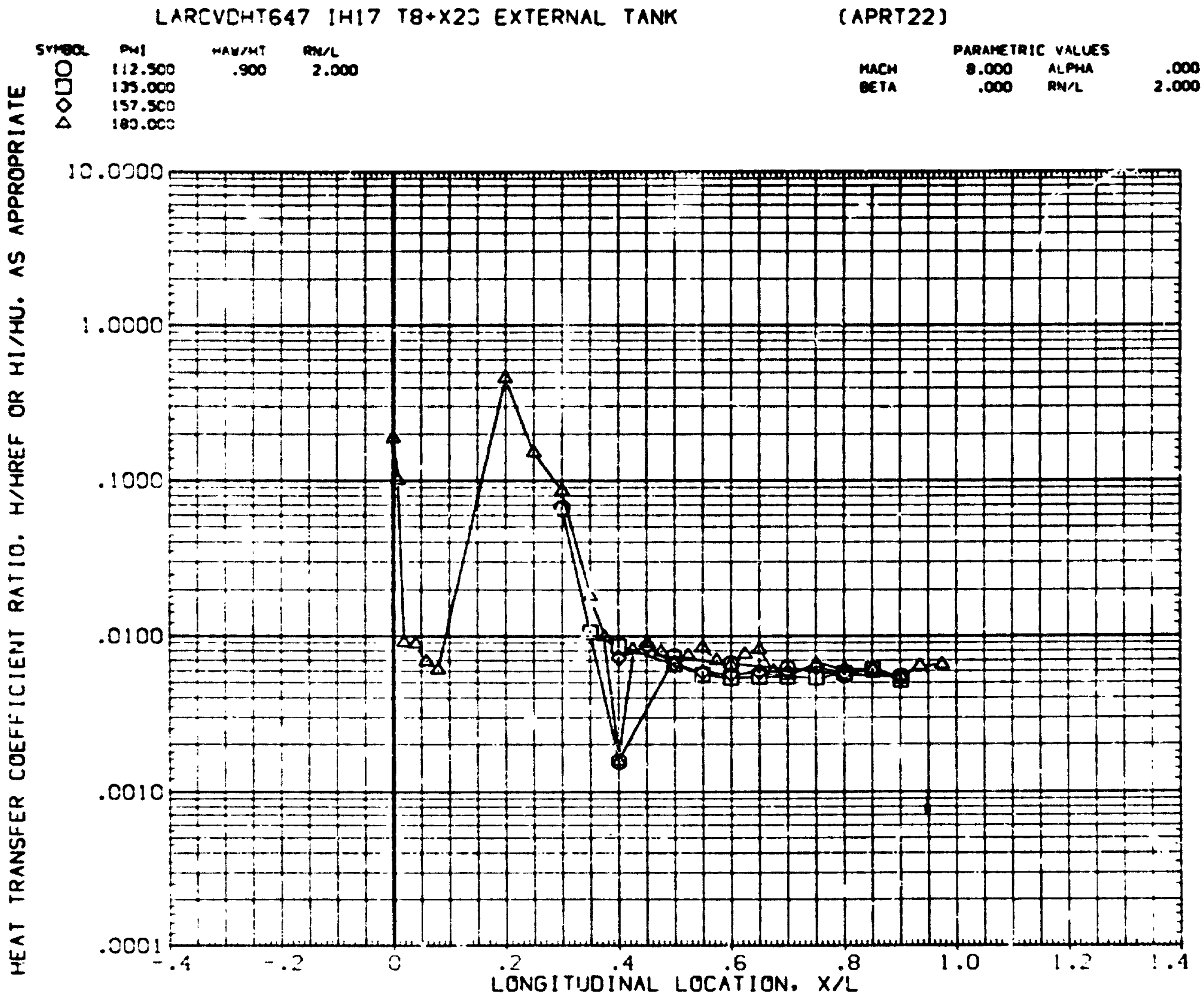


FIG. 49 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=2.0, ALPHA= 0.0)

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (APRT23)

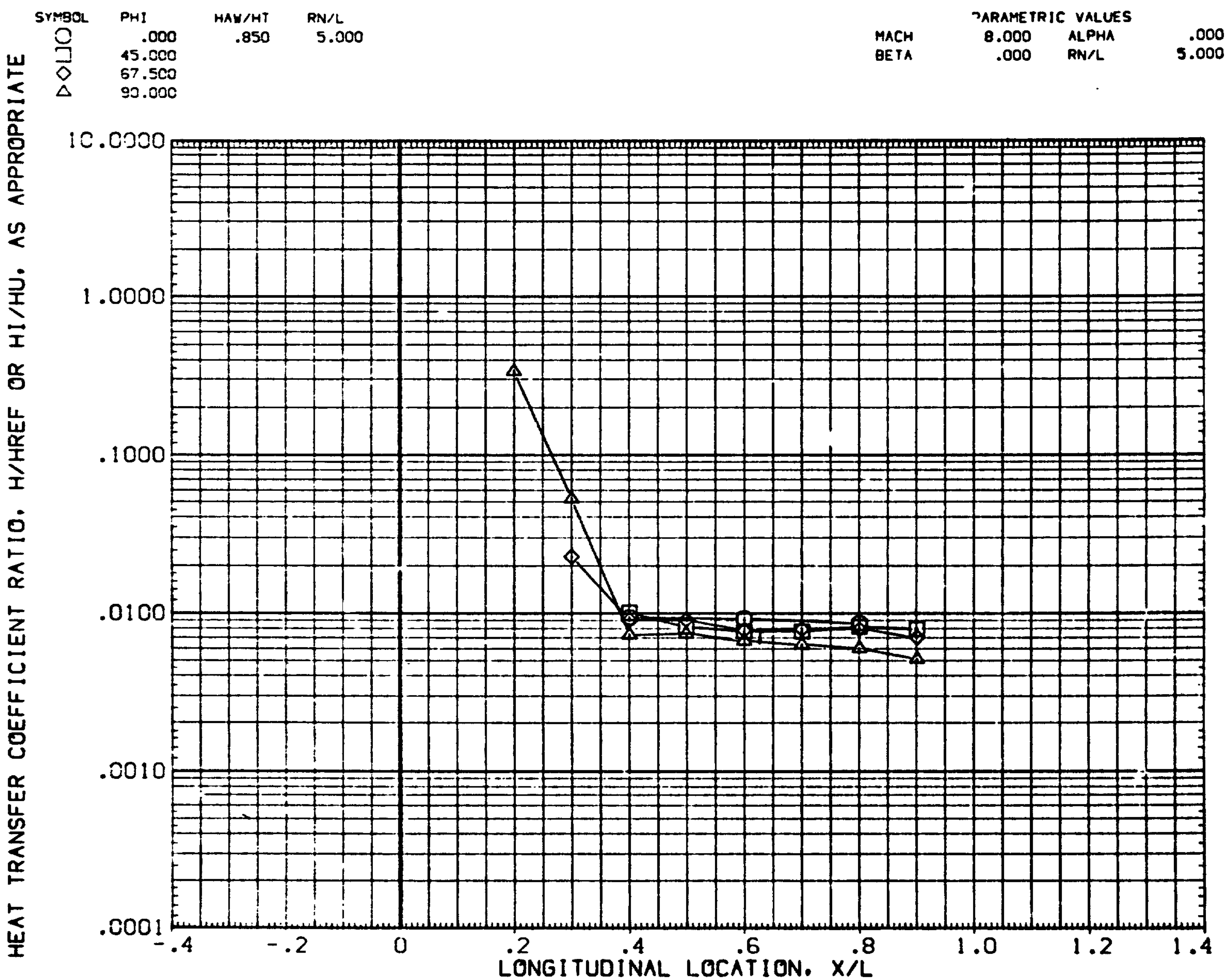


FIG. 50 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=5.0, ALPHA= 0.0)

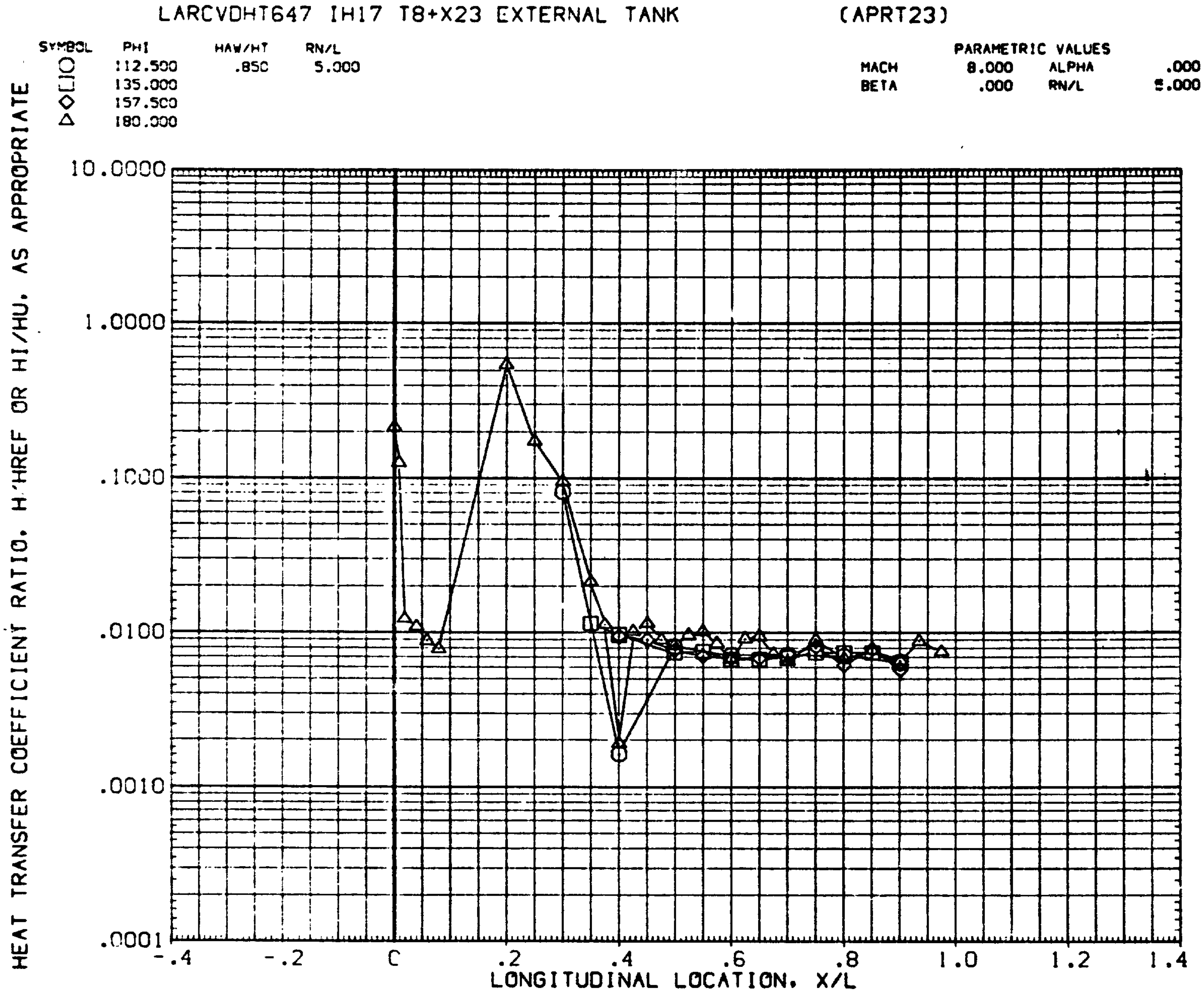


FIG. 50 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=5.0, ALPHA= 0.0)

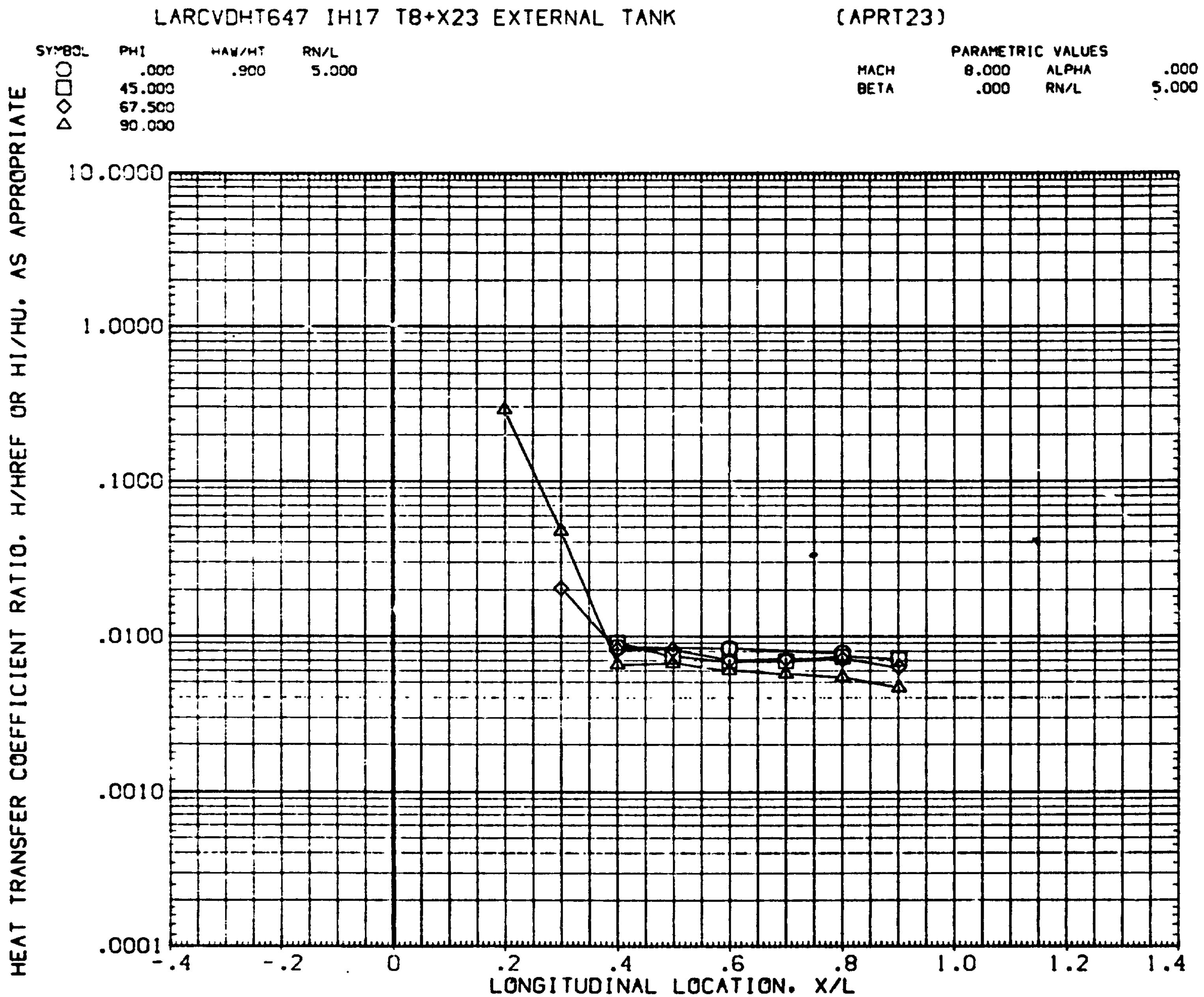


FIG. 50 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=5.0, ALPHA= 0.0)

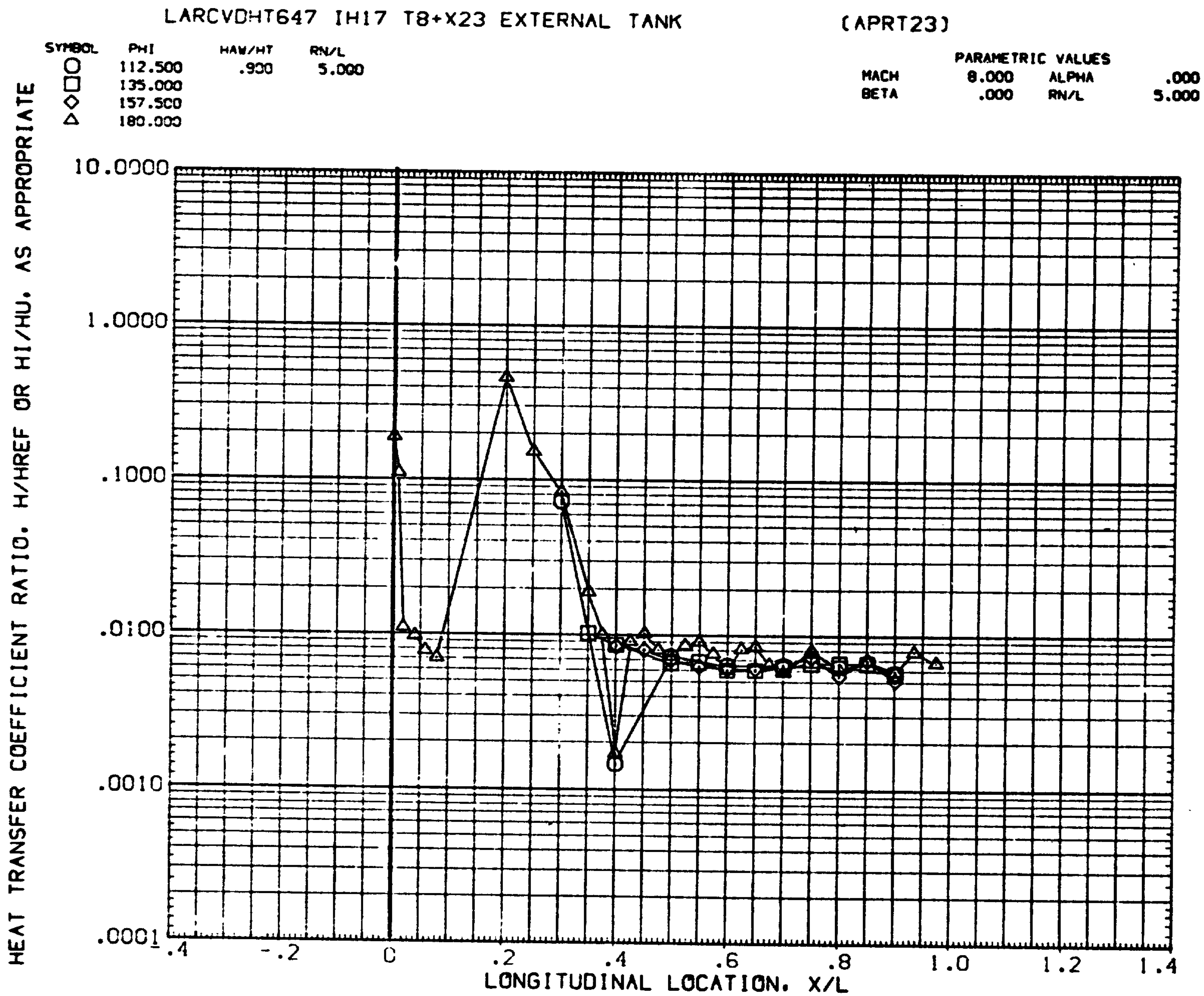


FIG. 50 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=5.0, ALPHA= 0.0)

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (APRT24)

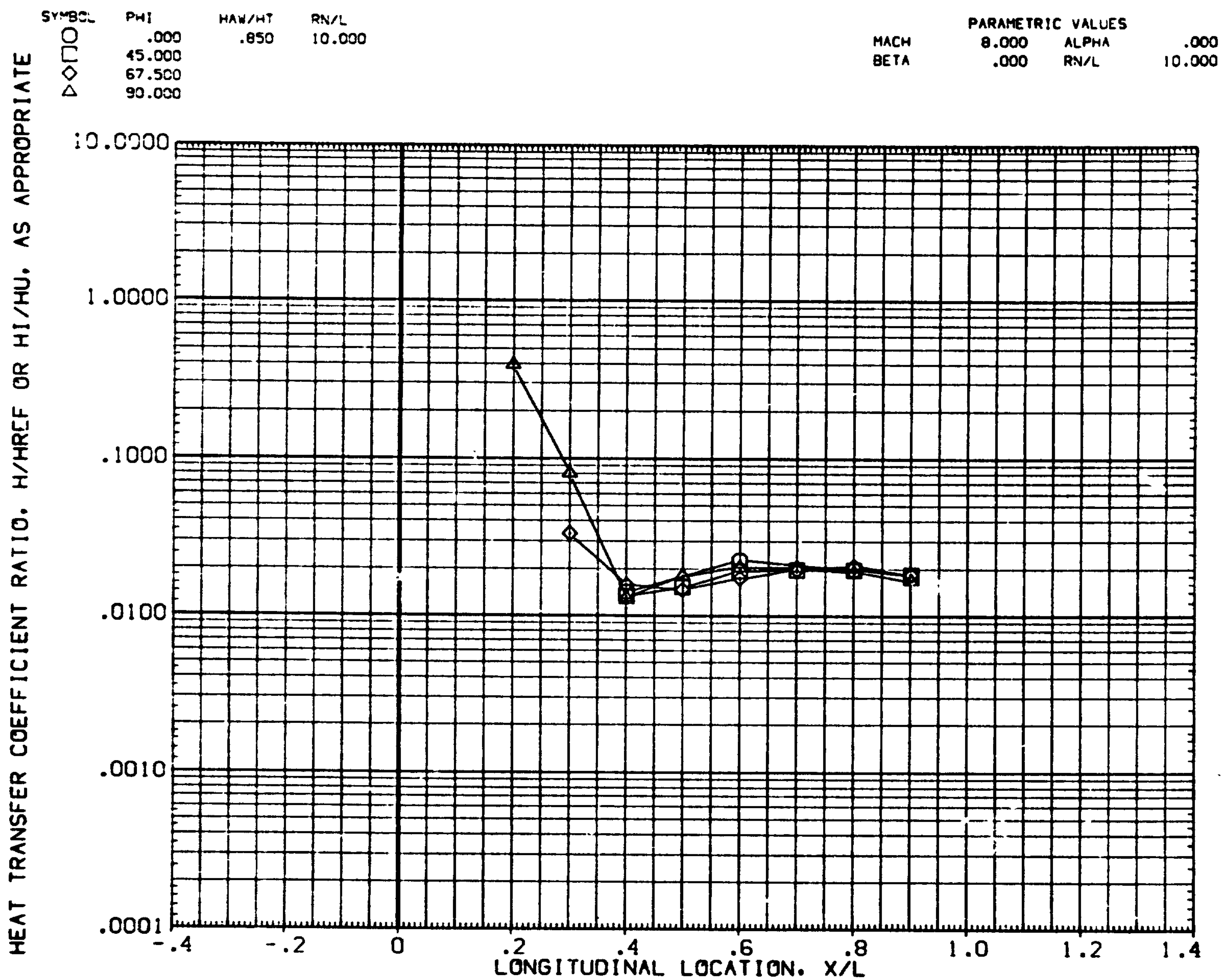


FIG. 51 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=10.0, ALPHA= 0.0)

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (APRT24)

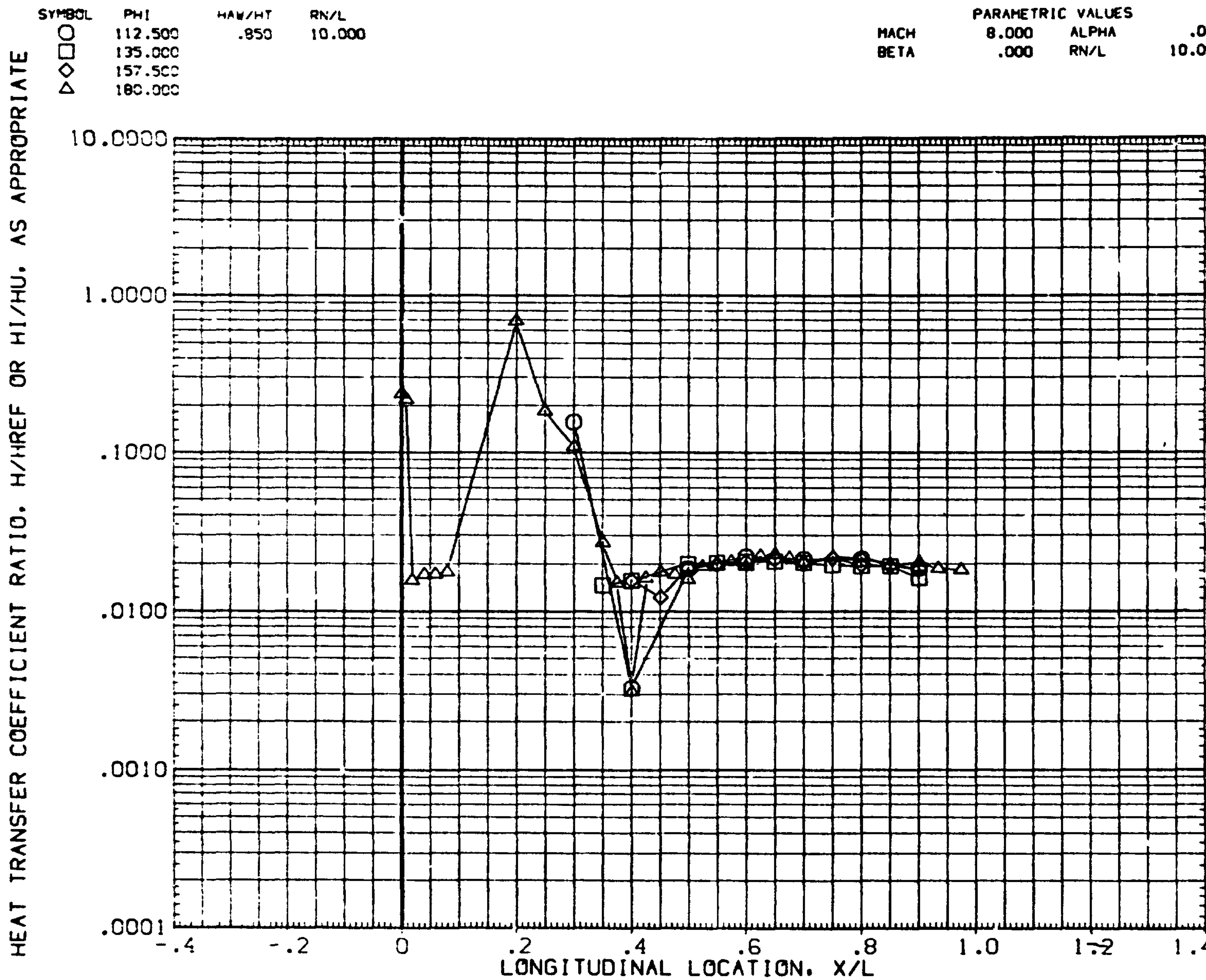


FIG. 51 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=10.0, ALPHA= 0.0)

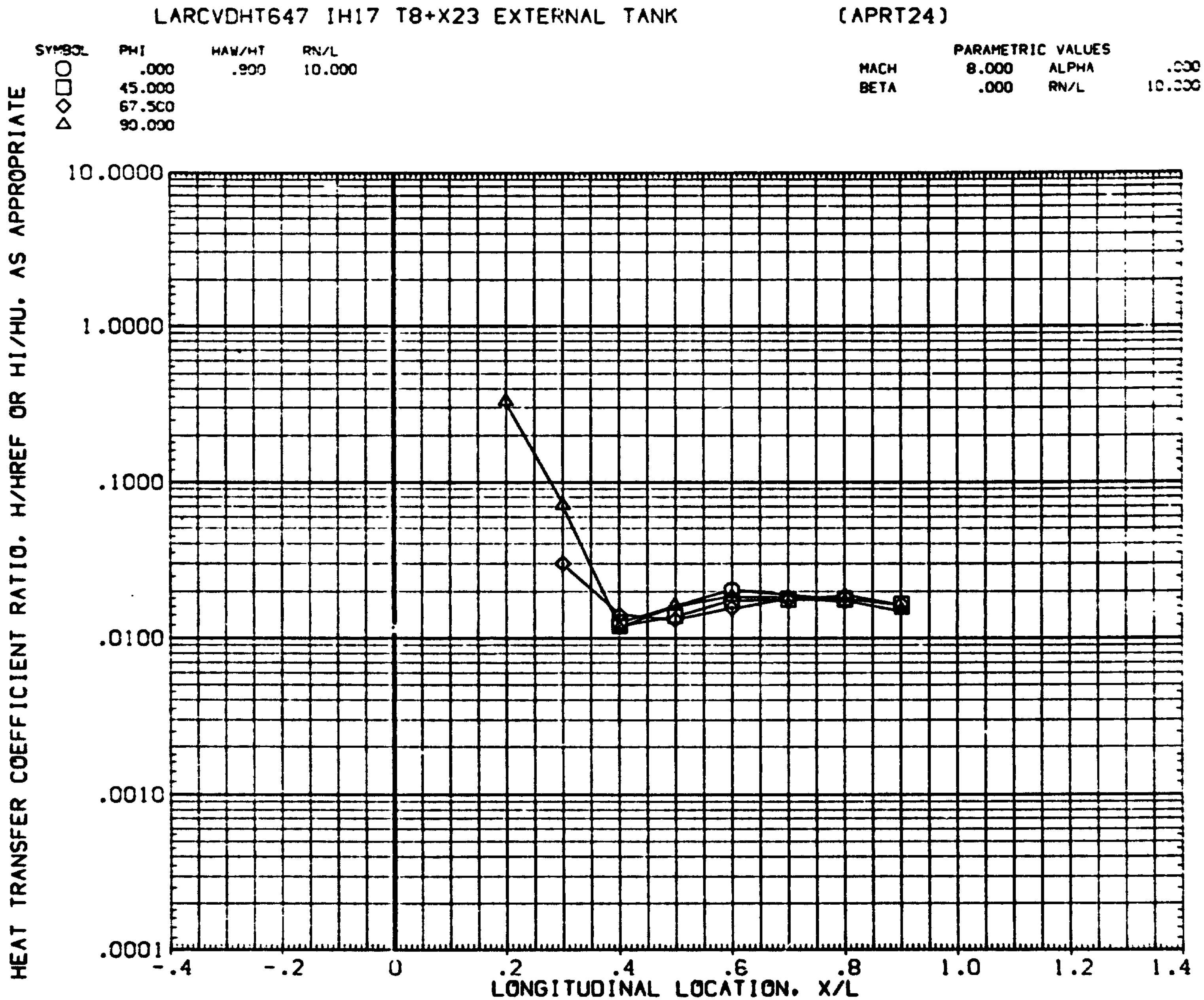


FIG. 51 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=10.0, ALPHA= 0.0)

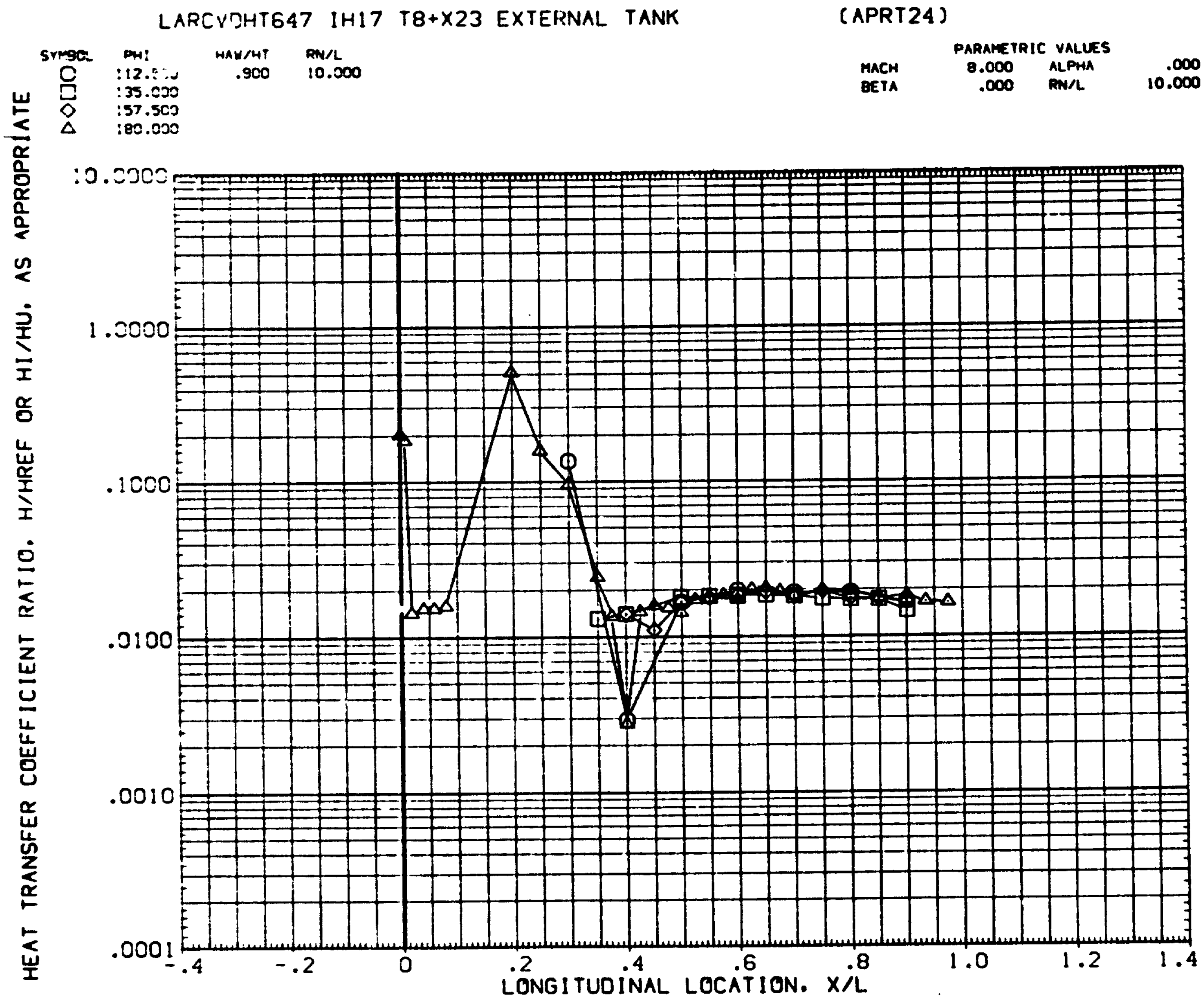


FIG. 51 EXTERNAL TANK WITH X23 HEAT TRANSFER RATIO (RN/L=10.0, ALPHA= 0.0)

DATE 16 MAR 76 TABULATED SOURCE DATA, IH17, LARC VDHT 646-647 PAGE 1

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (RPRB01) (16 MAR 76)

REFERENCE DATA					PARAMETRIC DATA			
SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.		MACH =	8.000	ALPHA =	.000
LREF =	474.8000 IN.	YMRP =	.0000 IN.		BETA =	.000	RN/L =	.100
BREF =	936.7000 IN.	ZMRP =	.0000 IN.					
SCALE =	.0059							

RN/L (1) = .100 HAW/HT(1) = .800 MACH = 7.3731 PO = 23.805 TO = 1236.7 HO = .19479-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.0698	
.150	.0998	
.175	.12.1	
.200	0817	
.250	.0919	
.300	.0516	
.350		.0021
.375		.0019
.400	.0269	.0178
.500	.0.55	.0167
.600	.0848	.2161
.700	.0097	.0220
.800	.0174	0217
.900	.0221	.0.02
1.000	.0051	0026
1.025	.0157	

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.3731 PO = 23.805 TO = 1236.7 HO = .19479-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.0622	
.150	.0887	
.175	.1076	
.200	.0728	
.250	08 9	
.300	0480	
.350		.0019
.375		.0017
.400	0240	.0159
500	0140	.0149

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

LARCVDHT646 IH17 O1+TB ORBITER FUSELAGE (RPRB01)

RN/L (1) = .100 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP) .0000 70.0000

X/L		
.600	.0728	.1927
.700	.0386	.0196
.800	.0255	.0165
.900	.0198	.0091
1.000	.0045	.0023
1.025	0.40	

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (RPRB02) (16 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.
LREF =	474.8000 IN.	YMRP =	.0000 IN.
BREF =	936.7000 IN.	ZMRP =	.0000 IN.
SCALE =	.0159		

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	.500

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.7041 PO = 117.18 TO = 1270.3 HO = .32105-01

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y/BP	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.0841	
.150	.1232	
.175	.[illegible]549	
.200	.0991	
.250	[illegible]	
.300	.0[illegible]	
.350		.0179
.375		.0051
.400	.0243	.0170
.500	.0[illegible]57	.0158
.600	.0325	.1954
.700	.0[illegible]8	.0180
.800	.0[illegible]0	.0028
.900	.0[illegible]	.0149
1.000	.0054	.0117
1.025	.0220	

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.7041 PO = 117.18 TO = 1270.3 HO = .32105-01

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y/BP	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.0752	
.150	.1037	
.175	.1377	
.200	.0665	
.250	.0897	
.300	.0047	
.350		.0161
.375		.0046
.400	.0218	.0152
.500	.0141	.0141

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (RPR802)

RN/L (1) = .500 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y/BP: .0000 70.0000

X/L		
.600	.0240	.1751
.700	.0070	.0162
.800	.0134	.0024
.900	.0153	.0133
1.000	.0048	.0105
1.025	.0197	

LARCVOHT646 IH17 O1+T8 ORBITER FUSELAGE (RPR803) (16 MAR 76)

REFERENCE DATA				PARAMETRIC DATA			
SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.	MACH =	8.000	ALPHA =	.000
LREF =	474.8000 IN.	YMRP =	.0000 IN.	BETA =	.000	RN/L =	2.000
BREF =	936.7000 IN.	ZMRP =	.0000 IN.				
SCALE =	.0059						

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9115 PO = 497.82 TC = 1379.4 HO = .67283-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP) .0000 TO .0000

X/L		
.088	.0000	
.100	.0000	
.125	.1071	
.150	.1622	
.175	.1510	
.200	.1264	
.250	.1457	
.300	....	
.350		.0142
.375		.0024
.400	.0218	.0200
.500	.0124	.0188
.600	-.0015	.0066
.700	.0071	.0190
.800	.0175	....
.900	.0242	.0117
1.000	.0043	.0079
1.025	.0188	

RN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9115 PO = 497.82 TO = 1379.4 HO = .67283-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP) .0000 TO .0000

X/L		
.088	.0000	
.100	.0000	
.125	.0257	
.150	.1436	
.175	.1320	
.200	.1229	
.250	.1357	
.300	....	
.350		.0128
.375		.0022
.400	.0196	.0160
.500	.0112	.0170

LARCVDHT646 IH17 OI+TB ORBITER FUSELAGE (RPRB03)

RN/L (1) = 2.000 HAW/HT(2) = .900

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

WIER .0000 TO .0000

X/L		
.600	-.0026	.663
.700	.0064	[illegible]
.800	.0159	[illegible]
.900	.0218	.0116
1.000	.0039	.0071
1.025	.0109	

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (RPRB04) (15 MAR 76)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	5.007

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9609 PO = 735.96 TO = 1395.9 HO = .80603-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X/L	Y(BP) .0000	70.0000
.088	.0000	
.100	.0000	
.125	.1208	
.150	.1395	
.175	.1726	
.200	.1414	
.250	.1622	
.300	....	
.350		.0134
.375		.0025
.400	.0221	.0217
.500	.0119	.0206
.600	....	.2156
.700	.0079	.0199
.800	.0193	....
.900	.0256	.0109
1.000	.0042	.0080
1.025	.0187	

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9609 PO = 735.96 TO = 1395.9 HO = .30603-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X/L	Y(BP) .0000	70.0000
.088	.0000	
.100	.0000	
.125	.1075	
.150	.1210	
.175	.1489	
.200	.1258	
.250	.1437	
.300	....	
.350		.0121
.375		.0022
.400	.0199	.0195
.500	.0107	.0186

LARCVDHT646 1H17 O1+T8 ORBITER FUSELAGE (RPRB04)

RN/L (1) = 5.000 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.600	********	.1944
.700	.0071	.0170
.800	.0174	*********
.900	.0230	.0098
1.000	.0038	.0073
1.025	.0169	

DATE 15 MAR 76 TABULATED SOURCE DATA, IH17, LARC VDHT 646-647 PAGE 9

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (RPRB05) (16 MAR 76)

REFERENCE DATA

SREF = 2590.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 HAW/HT(1) = .850 MACH = 8.1061 PO = 2535.6 TO = 1448.2 HO = .14397

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.1137	
.150	.1785	
.175	.2341	
.200	.1365	
.250	.1604	
.300	....	
.350		.0121
.375		.0018
.400	.0243	.0237
.500	.0125	.0221
.600	....	.2240
.700	.0094	.0215
.800	.0266	....
.900	.0239	.0124
1.000	.0041	.0084
1.025	.0182	

RN/L (1) = 10.000 HAW/HT(2) = .900 MACH = 8.1061 PO = 2535.6 TO = 1448.2 HO = .14397

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.0960	
.150	.1418	
.175	.1845	
.200	.1150	
.250	.1329	
.300	....	
.350		.0110
.375		.0016
.400	.0220	.0214
.500	.0114	.0199

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (RPRB05)

RN/L (1) = 10.000 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.600	********	.2021
.700	.0085	.0194
.800	.0240	********
.900	.0270	.0112
1.000	.0037	.0076
1.025	.0164	

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (RPRB06) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.3731 PO = 23.805 TO = 1230.1 HO = .19473-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.0858	
.150	.1250	
.175	.1514	
.200	.1000	
.250	.1140	
.300	-.0860	
.350		.0088
.375		.0006
.400	.0273	.0191
.500	.0182	.0201
.600	********	.2179
.700	.0116	.0231
.800	.0220	-.3150
.900	.0255	.0159
1.000	.0048	.0094
1.025	.0237	

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.3731 PO = 23.805 TO = 1230.1 HO = .19473-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.0763	
.150	.1110	
.175	.1343	
.200	.0890	
.250	.1013	
.300	-.1318	
.350		.0079
.375		.0006
.400	.0243	.0170
.500	.0162	.0179

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (RPRB06)

RN/L (1) = .100 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.600	*********	.1943
.700	.0103	.0206
.800	.0197	-.4432
.900	.0228	.0142
1.000	.0043	.0094
1.025	.0212	

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (RPRB07) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9615 PO = 737.51 TO = 1396.0 HO = .81195-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X/L	Y(BP) .0000	70.0000
.088	.0000	
.100	.0000	
.125	.1263	
.150	.1726	
.175	.1968	
.200	.1433	
.250	.1553	
.300	....	
.350		.0154
.375		.0020
.400	.0248	.0274
.500	.0127	.0258
.600	....	.2666
.700	.0161	.0217
.800	.0340	....
.900	.0314	.0135
1.000	.0047	.0096
1.025	.0220	

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9615 PO = 737.51 TO = 1396.0 HO = .81195-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X/L	Y(BP) .0000	70.0000
.088	.0000	
.100	.0000	
.125	.1100	
.150	.1474	
.175	.1585	
.200	[illegible]	
.250	[illegible]	
.300	....	
.350		.0139
.375		.0018
.400	.0223	.0246
.500	.0114	.0232

LARCVDHT646 IH17 OI+TB ORBITER FUSELAGE (RPRB07)

RN/L (1) = 5.000 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.600	*********	.2401
.700	.0145	.0195
.800	.0305	*********
.900	.0283	.0122
1.000	.0043	.0087
1.025	.0199	

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE (RPRB08) (16 MAR 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.4044 PO = 29.775 TO = 1231.5 HO = .30653-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.0724	
.150	.0939	
.175	.1625	
.200	.0877	
.250	.1165	
.300	-.0158	
.350		.0062
.375		-.0001
.400	.0172	.0139
.500	.0 38	.0141
.600	********	.1704
.700	.0089	.0199
.800	.0138	-.1112
.900	.0162	.0120
1.000	00-8	.0051
1.025	0195	

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.4044 PO = 29.775 TO = 1231.5 HO = .30653-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.0642	
.150	.0830	
.175	.1439	
.200	.0779	
.250	.1053	
.300	-.0201	
.350		.0055
.375		-.0000
.400	.0153	.0124
.500	.0097	.0125

LARCVDHT646 IH17 01+T8+X23 ORBITER FUSELAGE (RPRB08)

RN/L (1) = .100 HAW/HT(2) = .5[illegible]0

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP .0000 70.0000

X		
.600	*********	.1519
.700	.0079	.0177
.800	.0123	-.1407
.900	.0144	.0107
1.000	.0042	.0046
1.025	.0174	

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE (RPR809) (16 MAR 76)

REFERENCE DATA				PARAMETRIC DATA			
SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.	MACH =	8.000	ALPHA =	.000
LREF =	474.8000 IN.	YMRP =	.0000 IN.	BETA =	.000	RN/L =	.500
BREF =	936.7000 IN.	ZMRP =	.0000 IN.				
SCALE =	.0059						

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.6928 PO = 108.93 TO = 1269.4 HO = .30968-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP) .0000 TO .0000

X/L		
.088	.0000	
.100	.0000	
.125	.1059	
.150	.1529	
.175	.1803	
.200	.1295	
.250	.1395	
.300	-.0218	
.350		.0161
.375		.0050
.400	.0173	.0126
.500	.0132	.0124
.600	********	.1500
.700	.0077	.0172
.800	.0163	-.0091
.900	.0158	.0136
1.000	.0045	.0106
1.025	.0194	

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.6928 PO = 108.93 TO = 1269.4 HO = .30968-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP) .0000 TO .0000

X/L		
.088	.0000	
.100	.0000	
.125	.0943	
.150	.1355	
.175	.1596	
.200	.153	
.250	.1242	
.300	-.0233	
.350		.0144
.375		.0045
.400	.0155	.0113
.500	.0118	.0111

DATE 16 MAR 75 TABULATED SOURCE DATA. IH17. LARC VDHT 646-647 (RPRB09)

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE

[illegible] = .500 HAW/HT(2) = .900

SECTION 1 ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y/BP .0000 TO [illegible]

Y		
.600	....	.1343
.700	.0069	.0154
.800	[illegible]	-.0178
.900	[illegible]	.0121
1.000	.0041	.0097
1.025	[illegible]	

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE (RPRB10) (15 MAR 76)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	2.000

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9104 PO = 493.62 TO = 1339.3 HO = .66755-01

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP .0000 70.0000

X/L		
.088	.0000	
.100	.0000	
.125	.1565	
.150	.1563	
.175	.1654	
.200	.1714	
.250	.1857	
.300	....	
.350		.0147
.375		.0030
.400	.0369	.0187
.500	.0[illegible]33	.0182
.600	....	.2043
.700	.0127	.0191
.800	.0221	....
.900	.0230	.0135
1.000	.0252	.0096
1.025	.0204	

RN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9104 PO = 493.62 TO = 1339.3 HO = .66755-01

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP .0000 70.0000

X/L		
.088	.0000	
.100	.0000	
.125	.1377	
.150	.1362	
.175	.1591	
.200	.15[illegible]	
.250	.1632	
.300	....	
.350		.0132
.375		.002[illegible]
.400	.0330	.0167
.500	.0209	.0163

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE (RPR810)

RN/L (1) = 2.000 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.600	*********	.1831
.700	.0114	.0172
.800	.0198	*********
.900	.0206	.0121
1.000	.0045	.0066
1.025	.0183	

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE (RPRB11) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN
LREF = 474.9000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9591 PO = 723.36 TO = 1376.4 HO = .79966-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.1244	
.150	.1661	
.175	.1962	
.200	.1407	
.250	.1501	
.300	********	
.350		.0133
.375		.0027
.400	.0426	.0219
.500	.0279	.0215
.600	********	.2347
.700	.0143	.0206
.800	.0263	********
.900	.0259	.0133
1.000	.0058	.0102
1.025	.0222	

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9591 PO = 723.36 TO = 1376.4 HO = .79966-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.1087	
.150	.1425	
.175	.1677	
.200	.1230	
.250	.1306	
.300	********	
.350		.0120
.375		.0024
.400	.0384	.0197
.500	.0251	.0194

LARCVDHT646 IH17 '+TB-X23 ORBITER FUSELAGE (RPRB11)

RN/L (1) = 5.000 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP,	0000	70.0000
X/L		
.600	********	.2114
700	0.29	.0185
.800	0237	********
.900	0242	.0120
1.000	0053	.0092
1.025	0200	

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE (RPRB12) (16 MAR 76)

REFERENCE DATA

SREF = 2590.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 HAW/HT(1) = .850 MACH = 8.1063 PO = 2541.3 TO = 1430.1 HO = .14365

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP: .0000 70.0000

X/L		
.088	.0000	
.100	.0000	
.125	.1691	
.150	.2382	
.175	.2775	
.200	.1939	
.250	.2057	
.300	....	
.350		.0181
.375		.0028
.400	.0494	.0316
.500	.0433	.0303
.600	....	.3591
.700	.0265	.0300
.800	.0561	....
.900	.0397	.0199
1.000	.0076	.0157
1.025	.0274	

RN/L (1) = 10.000 HAW/HT(2) = .900 MACH = 8.1063 PO = 2541.3 TO = 1430.1 HO = .14365

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP. .0000 70.0000

X/L		
.088	.0000	
.100	.0000	
.125	.1400	
.150	.1894	
.175	.2203	
.200	.1612	
.250	.1709	
.300	....	
.350		.0163
.375		.0026
.400	.0445	.0285
.500	.0390	.0273

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE (RPRB12)

RN/L (1) = 10.000 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y/BP)	.0000	70.0000
X/L		
.600	********	.3237
.700	.0239	.0270
.800	.0505	********
.900	.0349	.0179
1.000	.0069	.0142
1.025	.0248	

LARCVDHT646 IH17 O1+X23 ORBITER FUSELAGE (RPRB25) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT.	XMRP = .0000 IN.		
LREF = 474.8000 IN.	YMRP = .0000 IN.		
BREF = 936.7000 IN.	ZMRP = .0000 IN.		
SCALE = .0059			

PARAMETRIC DATA

MACH = 8.000	ALPHA = .000
BETA = .000	RN/L = 100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.4713 PO = 32.700 TO = 1251.6 HO = .19145-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.0711	
.150	.1065	
.175	.1303	
.200	.0902	
.250	.1039	
.300	.0045	
.350		.0066
.375		.0043
.400	.0210	.0123
.500	.0141	.0123
.600	********	.1345
.700	.0072	.0131
.800	.0109	********
.900	.0106	.0096
1.000	.0026	.0083
1.025	.0073	

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.4713 PO = 32.700 TO = 1251.6 HO = .19145-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.083	.0000	
.100	.0000	
.125	.0635	
.150	.0949	
.175	.1160	
.200	.0804	
.250	.0926	
.300	.0058	
.350		.0059
.375		.0039
.400	.0.88	.0110
.500	.0126	.0110

LARCVDHT646 IH17 O1+X23 ORBITER FUSELAGE (RPR825)

RN/L (1) = .100 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X/L	Y/BP: .0000	70.0000
.600	*********	.1201
.700	.0064	.0117
.800	.0098	*********
.900	.0095	.0086
1.000	.0023	.0074
1.025	.0066	

LARCVDHT646 IH17 01+X23 ORBITER FUSELAGE (RPRB26) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.6953 PO = 110.64 TO = 1280.2 HO = .31029-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X/L	Y/BP .0000	70.0000
.088	.0000	
.100	.0000	
.125	.0714	
.150	.1022	
.175	.1291	
.200	.0924	
.250	.1155	
.300	-.1039	
.350		.0045
.375		.0026
.400	.0216	.0099
.500	.0154	.0099
.600	********	.1071
.700	.0078	.0115
.800	.0095	-.1803
.900	.0082	.0081
1.000	.0021	.0063
1.025	.0062	

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.6953 PO = 110.64 TO = 1280.2 HO = .31029-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X/L	Y/BP .0000	70.0000
.088	.0000	
.100	.0000	
.125	.0638	
.150	.0911	
.175	.1149	
.200	.0824	
.250	.1028	
.300	-.2035	
.350		.0040
.375		.0023
.400	.0193	.0088
.500	.0138	.0089

LARCVDHT646 IH17 O1+X23 ORBITER FUSELAGE (RPRB26)

RN/L (1) = .500 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP) 0000 TO 0000

X/L		
.600	*********	.0959
.700	.0070	.0103
.800	.0085	-.2590
.900	.0073	.0072
1.000	.0018	.0057
1.025	.0055	

DATE 16 MAR 76 TABULATED SOURCE DATA, IH17, LARC VDHT 646-647 PAGE 29

LARCVDHT646 IH17 O1+X23 ORBITER FUSELAGE (RPRB27) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9095 PO = 490.20 TO = 1368.1 HO = .66564-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X	Y BP .0000	70.0000
.088	.0000	
.100	.0000	
.125	.1720	
.150	.1706	
.175	.1365	
.200	.1215	
.250	.1295	
.300	....	
.350		.0047
.375		.0025
.400	.0377	.0115
.500	.0247	.0111
.600	....	.1190
.700	.0132	.0111
.800	.0140	....
.900	.0119	.0073
1.000	.0018	.0058
1.025	.0081	

RN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9095 PO = 490.20 TO = 1368.1 HO = .66564-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X	Y BP .0000	70.0000
.088	.0000	
.100	.0000	
.125	.1532	
.150	.1485	
.175	.1709	
.200	.1880	
.250	.1951	
.300	....	
.350		.0043
.375		.0023
.400	.0339	.0104
.500	.0222	.0100

LARCVDHT646 IH17 O1+X23 ORBITER FUSELAGE (RPRB27)

RNL (1) = 2.000 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP, .0000 70.0000

X/L		
.600	********	.1073
.700	.0119	.0100
.800	.0126	********
.900	.0107	.0066
1.000	.0016	.0052
1.025	.0073	

LARCVDHT646 IH17 O1+X23 ORBITER FUSELAGE (RPRB28) (16 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.		
LREF =	474.8000 IN.	YMRP =	.0000 IN.		
BREF =	936.7000 IN.	ZMRP =	.0000 IN.		
SCALE =	.0059				

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9584 PO = 719.47 TO = 1388.6 HO = .80567-01

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP) .0000 TO .0000

X/L		
.088	.0000	
.100	.0000	
.125	.1981	
.150	.2 3	
.175	.2344	
.200	.2268	
.250	.1806	
.300	•••••••••	
.350		.0064
.375		.0036
.400	.0442	.0125
.500	.0291	.0121
.600	•••••••••	.1302
.700	.0153	.0116
.800	.0166	•••••••••
.900	.0142	.0076
1.000	.0087	.0058
1.025	.0106	

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9584 PO = 719.47 TO = 1388.6 HO = .80567-01

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP) .0000 TO .0000

X/L		
.088	.0000	
.100	.0000	
.125	.1759	
.150	.1834	
.175	.2035	
.200	.2014	
.250	.1569	
.300	•••••••••	
.350		.0058
.375		.0032
.400	.0399	.0113
.500	.0262	.0109

LARCVD-T6-6 IH17 O1+X23 ORBITER FUSELAGE (RPRB28)

R[illegible] = 5.000 HAW/HT(2) = .900

SECTION ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

[illegible] BP 0000 TO 0000

X/L		
.600	....	[illegible]75
.700	[illegible].38	.0105
.800	[illegible].50	....
.900	[illegible].33	.0069
[illegible]	[illegible]	.0052
[illegible]	[illegible]	

LARCVDHT646 IH17 O1+X23 ORBITER FUSELAGE (RPR829) (16 MAR 76)

REFERENCE DATA

SREF = [illegible] SQ.FT.	XMRP =	.0000 IN.	MACH =	8.000	ALPHA = .000
LREF = [illegible] IN.	YMRP =	.0000 IN.	BETA =	.000	RN/L = 10.000
BREF = [illegible] IN.	ZMRP =	.0000 IN.			
SCALE = [illegible]					

RN/L [illegible] = [illegible] HAW/HT(1) = .650 MACH = 8.1054 PO = 2520.7 TO = 1454.3 HO = .14363

SECTION ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y/BP [illegible] TO .0000

X/L		
.088	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]		
[illegible]		.0158
[illegible]		.0096
[illegible]	[illegible]	.0157
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	

RN/L [illegible] = [illegible] HAW/HT(2) = .900 MACH = 8.1054 PO = 2520.7 TO = 1454.3 HO = .14363

SECTION ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y/BP [illegible] TO [illegible]

X/L		
.088	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]		
[illegible]		.0143
[illegible]		.0087
[illegible]	[illegible]	.0142
.500	.0328	.0132

LARCVDHT646 IH17 OI+X23 ORBITER FUSELAGE (RPR829)

RN/L (1) = 10.000 HAW/HT(2) = .300

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X/L	Y/BP .0000	70.0000
.600	********	.1457
.700	.0164	.0158
.800	.0192	********
.900	.0189	.0125
1.000	.0047	.0095
1.025	.0193	

LARCVDHT646 IH17 O1 ORBITER FUSELAGE (RPRB30) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.4647 PO = 31.700 TO = 1221.4 HO = .18849-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.3371	
.150	.4439	
.175	.4829	
.200	.4029	
.250	.4251	
.300	********	
.350		.0611
.375		.0482
.400	.0602	.0470
.500	.0458	.0465
.600	********	.5413
.700	.0293	.0621
.800	.0428	********
.900	.0489	.0616
1.000	.0143	.0584
1.025	.0634	

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.4647 PO = 31.700 TO = 1221.4 HO = .18849-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.2984	
.150	.3914	
.175	.4259	
.200	.3564	
.250	.3757	
.300	********	
.350		.0544
.375		.0429
.400	.0535	.0418
.500	.0407	.0414

LARCVDHT646 IH17 01 ORBITER FUSELAGE (RPRB30)

RN/L (1) = .100 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP)	.0000	70.0000
X/L		
.600	********	.4817
.700	.0261	.0553
.800	.0381	********
.900	.0435	.05-8
1.000	.0127	.0520
1.025	.0564	

LARCVDHT646 IH17 01 ORBITER FUSELAGE (RPRB31) (16 MAR 76)

REFERENCE DATA

SREF	= 2590.0000 SQ.FT.	XMRP	= .0000 IN.		
LREF	= 474.8000 IN.	YMRP	= .0000 IN.		
BREF	= 936.7000 IN.	ZMRP	= .0000 IN.		
SCALE	= .0059				

PARAMETRIC DATA

MACH	= 8.000	ALPHA	= -5.000
BETA	= .000	RN/L	= 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9611 PO = 735.33 TO = 1391.4 HO = .80672-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X/L	Y(BP) .0000	70.0000
.088	.0000	
.100	.0000	
.125	.2102	
.150	.2339	
.175	.2746	
.200	.1892	
.250	.2077	
.300	********	
.350		.0058
.375		.0033
.400	.0201	.0046
.500	.0121	.0046
.600	********	.0557
.700	.0062	.0069
.800	.0070	********
.900	.0059	.0111
1.000	.0013	.0112
1.025	.0074	

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9611 PO = 735.33 TO = 1391.4 HO = .80672-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X/L	Y(BP) .0000	70.0000
.088	.0000	
.100	.0000	
.125	.1862	
.150	.2113	
.175	.2356	
.200	.1655	
.250	.1810	
.300	********	
.350		.0052
.375		.0030
.400	.0181	.0041
.500	.0109	.0042

LARCVDHT646 IH17 01 ORBITER FUSELAGE (RPRB31)

[illegible] = 5.000 HAW/HT(2) = .900

SECTION 1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

[illegible] .0000 TO .0000

[illegible]	....	.0502
[illegible]	.0056	.0063
[illegible]	.0053	....
[illegible]	.0053	.0100
[illegible]	.00[illegible]	.0101
[illegible]	.00[illegible]	
[illegible]	.0066	

DATE 16 MAR 76 TABULATED SOURCE DATA, 1417, LARC VDHT 646-647 PAGE 39

LARCVDHT646 1417 01 ORBITER FUSELAGE (RPRB32) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.4713 PO = 32.700 TO = 1211.4 HO = .19041-01

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP .0000 70.0000

X/L		
.088	.0000	
[illegible]	.0000	
.125	.0315	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
.300	....	
[illegible]		.0042
.375		.0047
.400	.0304	.0121
.500	.0205	.0130
[illegible]	....	[illegible]
[illegible]	[illegible]	.0127
.800	[illegible]	....
.900	[illegible]	.0102
1.000	[illegible]	.0051
1.025	[illegible]	

RN/L (2) = .100 HAW/HT(2) = .900 MACH = 7.4713 PO = 32.700 TO = 1211.4 HO = .19041-01

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP .0000 70.0000

X/L		
.088	.0000	
.100	.0000	
.125	.0614	
.150	.1331	
[illegible]	.1660	
.200	[illegible]	
.250	.1168	
.300	....	
.350		.0038
.375		.0042
.400	.0270	.0107
.500	.0183	.0116

LARCVDHT646 IH17 01 ORBITER FUSELAGE (RPR332)

PN/L (1) = .100 HAW/HT(2) = .900

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y/BP	.0000	70.0000
X/L		
.600	*********	.0959
.700	.0109	.0113
.800	.0[illegible]5	*********
.900	.0107	.0091
1.000	.0059	.0046
1.025	.0067	

LARCVDHT646 IH17 O1 ORBITER FUSELAGE (RPRB33) (16 MAR 76)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	.500

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.6961 PO = 111.17 TO = 1233.0 HO = .31093-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP) .0000 TO .0000

X/L		
.088	.0000	
.100	-.0000	
.125	.1043	
.150	.1629	
.175	.1565	
.200	.1289	
.250	.1186	
.300	*********	
.350		.0058
.375		.0035
.400	.0249	.0120
.500	.0173	.0117
.600	*********	.0109
.700	.0089	.0104
.800	.0109	*********
.900	.0103	.0091
1.000	.0027	.0078
1.025	.0075	

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.6961 PO = 111.17 TO = 1233.0 HO = .31093-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y(BP) .0000 TO .0000

X/L		
.088	.0000	
.100	.0000	
.125	.0929	
.150	.1446	
.175	.1382	
.200	.1147	
.250	.1052	
.300	*********	
.350		.0052
.375		.0031
.400	.0222	.0107
.500	.0154	.0104

LARCVDHT646 IH17 01 ORBITER FUSELAGE (RPRB33)

RN L 1) = .500 PAR/HT(2) = .900

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

X/L	Y/BP .0000	70.0000
.600	********	.0383
.700	.0080	.0093
.800	.0097	********
.900	.0032	.0081
1.000	.0124	.0067
1.025	.0057	

(RPRB34) (16 MAR 76)

LARCVDHT646 IH17 01 ORBITER FUSELAGE

REFERENCE DATA

SREF	= 2690.0000 SQ.FT.	XMRP	=	.0000	IN.
LREF	= 474.8000 IN.	YMRP	=	.0000	IN.
BREF	= 936.7000 IN.	ZMRP	=	.0000	IN.
SCALE	= .0059				

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	2.000

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9098 PO = 491.13 TO = 1348.7 HO = .64181-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP. .0000 70.0000

X/L	.0000	70.0000
.088	.0000	
.100	.0000	
.125	.1407	
.150	.1645	
.175	.1944	
.200	.1722	
.250	.1515	
.300	....	
.350		.0036
.375		.0023
.400	.0263	.0110
.500	.0166	.0115
.600	....	.1258
.700	.0096	.0113
.800	.0105	....
.900	.0035	.0072
1.000	.0017	.0064
1.025	.0055	

RN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9098 PO = 491.13 TO = 1348.7 HO = .64181-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP. .0000 70.0000

X/L	.0000	70.0000
.088	.0000	
.100	.0000	
.125	.1258	
.150	.1445	
.175	.1705	
.200	.1538	
.250	.1340	
.300	....	
.350		.0032
.375		.0021
.400	.0237	.0099
.500	.0149	.0104

DATE 16 MAR 76 TABULATED SOURCE DATA, IH17, LARC VDHT 646-647 PAGE 44

LARCVDHT646 IH17 01 ORBITER FUSELAGE (RPRB34)

RN/L (1) = 2.000 HAW/HT(2) = .900

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP	.0000	70.0000
.600	*********	.1134
.700	.0087	.0102
.800	.0085*********	
.900	.0085	.0065
1.000	.0075	.0058
1.020	.0060	

LARCVDHT646 IH17 01 ORBITER FUSELAGE (RPRB35) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0069

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L = 5.000 HAW/HT(1) = .890 MACH = 7.9622 PO = 741.56 TO = 1377.1 HO = .80824-01

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP .0000 70.0000

X/L		
.088	.0000	
.100	.0000	
.125	.1483	
.150	.[illegible]5[illegible]	
.175	.[illegible]53	
.200	.1788	
.250	.15[illegible]	
.300	....	
.350		.0033
.375		.0025
.400	.0367	.0107
.500	.0[illegible]51	.010[illegible]
.600	....	.[illegible]107
.700	.0085	.0099
.800	.009[illegible]	....
.900	.0097	.007[illegible]
1.000	.00[illegible]2	.0056
1.025	.005[illegible]	

RN/L = 5.000 HAW/HT(2) = .900 MACH = 7.9622 PO = 741.56 TO = 1377.1 HO = .80824-01

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP .0000 70.0000

X/L		
.088	.0000	
.100	.0000	
.125	.1324	
.150	.1443	
.175	.170[illegible]	
.200	.1585	
.250	.1334	
.300	....	
.350		.0030
.375		.0022
.400	.024[illegible]	.0097
.500	.0136	.009[illegible]

LARCVDHT646 IH17 O1 ORBITER FUSELAGE (RPRB35)

RN/L (1) = 5.000 HAW/HT(2) = .900

SECTION (1) ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

[illegible] .0000 70.0000

[illegible]	....	[illegible]
[illegible]	.0076	[illegible]
[illegible]	[illegible]	....
[illegible]	.0078	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	.0049	

DATE 16 MAR 76 TABULATED SOURCE DATA, IH17, LARC VDHT 646-647 PAGE [illegible]

LARCVDHT646 IH17 O1 ORBITER FUSELAGE (RPR836) (16 MAR 76)

REFERENCE DATA

SREF = 2690.[illegible] SQ.FT. XMRP = .0000 IN.
LREF = [illegible] IN. YMRP = .0000 IN.
BREF = [illegible] IN. ZMRP = .0000 IN.
SCALE = [illegible]

PARAMETRIC DATA

MACH = 8.000 ALPHA = [illegible]
BETA = .000 RN/L = [illegible]

RN/L (1) = [illegible] HAW/HT(1) = .850 MACH = 8.1059 PO = 2532.5 TO = 1460.6 HO = .14385

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y/BP [illegible] TO .0000

X/L		
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	....	
[illegible]		.0043
[illegible]		[illegible]
.400	[illegible]	[illegible]
.500	[illegible]	[illegible]
[illegible]	....	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	....
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	

RN/L (2) = [illegible] HAW/HT(2) = .900 MACH = 8.1059 PO = 2532.5 TO = 1460.6 HO = .14385

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y/BP [illegible] TO .0000

X/L		
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	[illegible]	
[illegible]	....	
[illegible]		.0039
[illegible]		.0028
.400	[illegible]	[illegible]
.500	[illegible]	[illegible]

LARCVDHT646 IH17 01 ORBITER FUSELAGE (RPRB36)

[illegible] = 10.000 HAW/HT(2) = .900

SECTION ORBITER FUSELAGE DEPENDENT VARIABLE H/HREF

Y BP 0000 70.0000

[illegible]		.1225
[illegible]	[illegible]	.0..2
[illegible]	[illegible]	
[illegible]	[illegible]	0068
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	

DATE 16 MAR 75 TABULATED SOURCE DATA, IH17, LARC VDHT 646-647 PAGE 49

LARCVDHT646 IH17 01+T8 ORBITER CANOPY (RPRC01) (16 MAR 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.3731 PO = 23.805 TO = 1236.7 HO = .19479-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0225			
2.000	.0222			
3.000	.0212			
4.000				.0038
5.000			-.0003	
6.000		.0009		

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.3731 PO = 23.805 TO = 1236.7 HO = .19479-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0201			
2.000	.0198			
3.000	.0189			
4.000				.0034
5.000			-.0003	
6.000		.0008		

LARCVDHT645 IH17 O1+T8 ORBITER CANOPY (RPRC02) (16 MAR 75)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0069			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	.500

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.7041 PO = 117.18 TO = 1270.3 HO = .32105-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0210			
2.000	.0219			
3.000	.0221			
4.000				.0043
5.000			.0043	
6.000		.0060		

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.7041 PO = 117.18 TO = 1270.3 HO = .32105-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0189			
2.000	.0197			
3.000	.0198			
4.000				.0038
5.000			.0039	
6.000		.0054		

LARCVDHT646 IH17 O1+T8 ORBITER CANOPY (RPRC03) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9115 PO = 497.82 TO = 1379.4 HO = .67283-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0177			
2.000	.0199			
3.000	.0183			
4.000				.0040
5.000			.0044	
6.000		.0029		

RN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9115 PO = 497.82 TO = 1379.4 HO = .67283-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0159			
2.000	.0179			
3.000	.0165			
4.000				.0036
5.000			.0039	
6.000		.0026		

LARCVDHT646 1H17 O1+T8 ORBITER CANOPY (RPRC04) (16 MAR 76)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0159			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9609 PO = 735.96 TO = 1395.9 HO = .80603-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

T/C NO	Y .0470	.1780	.1960	.2130
1.000	.0175			
2.000	.0201			
3.000	.0160			
4.000				.0041
5.000			.0049	
6.000		.0030		

RN/L (2) = 5.000 HAW/HT(2) = .900 MACH = 7.9609 PO = 735.96 TO = 1395.9 HO = .80603-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

T/C NO	Y .0470	.1780	.1960	.2130
1.000	.0159			
2.000	.0181			
3.000	.0[illegible]22			
4.000				.0037
5.000			.0044	
6.000		.0027		

LARCVDHT646 IH17 OI+TB ORBITER CANOPY (RPRC05) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 HAW/HT (1) = .850 MACH = 8.1061 PO = 2535.6 TO = 1448.2 HO = .14397

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1950	.2130
T/C NO				
1.000	.0197			
2.000	.0206			
3.000	.0170			
4.000				.0036
5.000			.0039	
6.000		.0020		

RN/L (1) = 10.000 HAW/HT (2) = .900 MACH = 8.1061 PO = 2535.6 TO = 1448.2 HO - .14397

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1950	.2130
T/C NO				
1.000	.0178			
2.000	.0186			
3.000	.0154			
4.000				.0033
5.000			.0035	
6.000		.0018		

LARCVDHT646 IH17 O1+T8 ORBITER CANOPY (RPRC06) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.3731 PO = 23.805 TO = 1230.1 HO = .19473-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0235			
2.000	.0253			
3.000	.0262			
4.000				.0047
5.000			-.0004	
6.000		.0006		

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.3731 PO = 23.805 TO = 1230.1 HO = .19473-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0209			
2.000	.0235			
3.000	.0234			
4.000				.0042
5.000			-.0004	
6.000		.0005		

LARCVDHT646 IH17 OI+T8 ORBITER CANOPY (RPRC07) (15 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0050

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9615 PO = 737.51 TO = 1396.0 HO = .81195-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	0.470	.1780	.1960	.2130
T/C NO				
1.000	.0202			
2.000	.0229			
3.000	.0210			
4.000				.0041
5.000			.0062	
6.000		.0018		

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9615 PO = 737.51 TO = 1396.0 HO = .81195-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0182			
2.000	.0206			
3.000	.0189			
4.000				.0037
5.000			.0056	
6.000		.0017		

LARCVDHT646 IH17 O1+T8+X23 ORBITER CANOPY (RPRC08) (16 MAR 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.4044 PO = 29.775 TO = 1231.5 HO = .30653-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0152			
2.000	.0191			
3.000	.0208			
4.000				.0037
5.000			-.0007	
6.000		.0005		

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.4044 PO = 29.775 TO = 1231.5 HO = .30653-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0136			
2.000	.0170			
3.000	.0185			
4.000				.0033
5.000			-.0007	
6.000		.0004		

LARCVDHT6-6 IH17 O1+T8+X23 ORBITER CANOPY (RPRC09) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.6928 PO = 108.93 TO = 1269.4 HO = .30968-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0145			
2.000	.0169			
3.000	.0201			
4.000				.0040
5.000			.0043	
6.000		.0065		

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.6928 PO = 108.93 TO = 1269.4 HO = .30968-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0130			
2.000	.0152			
3.000	.0180			
4.000				.0036
5.000			.0039	
6.000		.0058		

LARCVDHT646 IH17 O1+T8+X23 ORBITER CANOPY (RPRC10) (16 MAR 76)

REFERENCE DATA

SREF = [illegible] SQ.FT.	XMRP = .0000 IN.		
LREF = [illegible] IN.	YMRP = .0000 IN.		
BREF = [illegible] IN.	ZMRP = .0000 IN.		
SCALE = [illegible]			

PARAMETRIC DATA

MACH = 8.000	ALPHA = [illegible]		
BETA = .000	RN/L = [illegible]		

RN/L = [illegible] HAW/HT(1) = .850 MACH = 7.9104 PO = 493.62 TO = 1339.3 HO = .66755-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	[illegible]	[illegible]	[illegible]	.2130
[illegible]	[illegible]			
[illegible]	[illegible]			
[illegible]	[illegible]			
[illegible]				
[illegible]				.0045
[illegible]			.0035	
[illegible]		.0031		

RN/L = [illegible] HAW/HT(2) = .900 MACH = 7.9104 PO = 493.62 TO = 1339.3 HO = .66755-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	[illegible]	[illegible]	[illegible]	.2130
[illegible]	[illegible]			
[illegible]	[illegible]			
[illegible]	[illegible]			
[illegible]				
[illegible]				.0040
[illegible]			.0031	
[illegible]		.0028		

LARCVDHT646 IH17 O1+T8+X23 ORBITER CANOPY (RPRC11) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0050

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = 850 MACH = 7.9591 PO = 723.36 TO = 1376.4 HO = .79966-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0374			
2.000	.0254			
3.000	.0244			
4.000				.0045
5.000			.0037	
6.000		.0031		

RN/L (1) = 5.000 HAW/HT(2) = 900 MACH = 7.9591 PO = 723.36 TO = 1376.4 HO = .79966-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0337			
2.000	.0209			
3.000	.0260			
4.000				.0040
5.000			.0034	
6.000		.0028		

LARCVDHT646 IH17 O1+T8+X23 ORBITER CANOPY (RPRC12) (16 MAR 76)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0000 [illegible]			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	10.000

RN/L [illegible] = [illegible].000 HAW HT 1 = 850 MACH = 8.1063 PO = 2541.3 TO = 1430.1 HO = .14365

SECTION ( ) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

[illegible]	.0470	.1780	.360	.2130
T/C NO				
[illegible]	.0468			
2.000	.0309			
3.000	.0310			
4.[illegible]				.0057
5.[illegible]			.0049	
6.[illegible]		.0034		

RN/L [illegible] = 10.000 HAW HT 2 = 900 MACH = 8.1063 PO = 2541.3 TO = 1430.1 HO = .14365

SECTION ( ) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

[illegible]	.0470	.1780	.360	.2130
T/C NO				
[illegible]	.038			
2.000	.0318			
[illegible]	.0[illegible]			
4.[illegible]				.0052
5.[illegible]			.0044	
6.[illegible]		.0030		

LARCVDHT646 1H17 01+X23 ORBITER CANOPY (RPRC25) (16 MAR 76)

REFERENCE DATA

SREF	= 2690.0000 SQ.FT.	XMRP	= .0000 IN.		
LREF	= 474.8000 IN.	YMRP	= .0000 IN.		
BREF	= 936.7000 IN.	ZMRP	= .0000 IN.		
SCALE	= .0069				

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	.100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.4713 PO = 32.700 TO = 1251.6 HO = .19145-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0189			
2.000	.0083			
3.000	.0064			
4.000				.0015
5.000			.0025	
6.000		.0053		

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.4713 PO = 32.700 TO = 1251.6 HO = .19145-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0169			
2.000	.0083			
3.000	.0075			
4.000				.0014
5.000			.0022	
6.000		.0047		

LARC/OHT646 IH17 01+X23 ORBITER CANOPY (RPRC26) 16 MAR 76

REFERENCE DATA

SREF = 2690.0000 SQ.FT.	XMRP =	.0000 IN.	
LREF = 474.8100 IN.	YMRP =	.0000 IN.	
BREF = 936.6800 IN.	ZMRP =	.0000 IN.	
SCALE = [illegible]			

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	.500

RN/L = .500 HAR HT (IN) = .850 MACH = 7.6953 PC = .110 E4 TO = 1280.2 HO = .31039-01

SECTION ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

[illegible]	[illegible]	.1780	.950	.2130
[illegible]				
[illegible]	[illegible]			
2.000	[illegible]			
3.000	[illegible]			
4.000				.0012
5.000			.0024	
[illegible]		.0022		

RN/L = .500 HAR HT (IN) = .900 MACH = 7.6953 PC = .110 E4 TO = 1280.2 HO = .31039-01

SECTION ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

[illegible]	[illegible]	.1780	.950	.2130
[illegible]				
[illegible]	[illegible]			
[illegible]	[illegible]			
3.000	[illegible]			
4.000				.0010
5.000			.002	
6.000		.0020		

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

LARCVDHT646 IH17 O1+X23 ORBITER CANOPY (RPRC27) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9095 PO = 490.20 TO = 1368.1 HO = .66564-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

T/C NO \ Y	.0470	.1780	.1960	.2130
1.000	.0330			
2.000	.0116			
3.000	.0039			
4.000				.0014
5.000			.0030	
6.000		.0033		

RN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9095 PO = 490.20 TO = 1368.1 HO = .66564-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

T/C NO \ Y	.0470	.1780	.1960	.2130
1.000	.0297			
2.000	.0105			
3.000	.0030			
4.000				.0013
5.000			.0027	
6.000		.0029		

LARCVDHT646 IH17 01+X23 ORBITER CANOPY (RPRC28) (16 MAR 76

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .830 MACH = 7.9584 PO = 719.47 TO = 1388.6 HO = .80567-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0389			
2.000	.0145			
3.000	.0139			
4.000				.0019
5.000			.0037	
6.000		.0040		

RN/L (2) = 5.000 HAW/HT(2) = .900 MACH = 7.9584 PO = 719.47 TO = 1388.6 HO = .80567-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0350			
2.000	.0131			
3.000	.0125			
4.000				.0017
5.000			.0033	
6.000		.0036		

LARCVDHT646 IH17 O1+X23 ORBITER CANOPY (RPRC29) (16 MAR 76)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	10.000

RN/L (1) = 10.000 HAW/HT(1) = 950 MACH = 8.1054 PO = 2520.7 TO = 1454.3 HO = .14363

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0527			
2.000	.0231			
3.000	.0241			
4.000				.0041
5.000			.0094	
6.000		.0109		

RN/L (1) = 10.000 HAW/HT(2) = .900 MACH = 8.1054 PO = 2520.7 TO = 1454.3 HO = .14363

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0474			
2.000	.0208			
3.000	.0218			
4.000				.0037
5.000			.0085	
6.000		.0099		

LARCVOHT646 1H17 C1 ORBITER CANOPY (RPRC30) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0159

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT (1) = .850 MACH = 7.4647 PO = 31.700 TO = 1221.4 HO = .18849-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
TC NO				
1.000	.0534			
2.000	.0547			
3.000	.0643			
4.000				.0130
5.000			.0436	
6.000		.0526		

RN/L (1) = .100 HAW/HT (2) = .900 MACH = 7.4647 PO = 31.700 TO = 1221.4 HO = .18849-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
TC NO				
1.000	.0475			
2.000	.0486			
3.000	.0572			
4.000				.0116
5.000			.0388	
6.000		.0468		

LARCVDHT646 IH17 O1 ORBITER CANOPY (RPRC31) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9611 PO = 735.33 TO = 1391.4 HO = .80672-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0169			
2.000	.0058			
3.000	.0068			
4.000				.0016
5.000			.0037	
6.000		.0042		

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9611 PO = 735.33 TO = 1391.4 HO = .80672-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.0152			
2.000	.0052			
3.000	.0061			
4.000				.0014
5.000			.0034	
6.000		.0038		

DATE 6 MAR 76 TABULATED SOURCE DATA, IH17, LARC VDHT 546-547

LARC/CHT646 IH17 01 ORBITER CANOPY (RPRC32) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW,HT(1) = .950 MACH = 7.4713 PO = 32.700 TO = 1211.4 HO = .19041-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

T/C NO	.0470	.1780	.1960	.2130
1.000	.0260			
2.000	.0108			
3.000	.0068			
4.000				.0026
5.000			.0039	
6.000		.0036		

RN/L (1) = .100 HAW,HT(2) = .900 MACH = 7.4713 PO = 32.700 TO = 1211.4 HO = .19041-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

T/C NO	.0470	.1780	.1960	.2130
1.000	.0231			
2.000	.0097			
3.000	.0078			
4.000				.0023
5.000			.0035	
6.000		.003[illegible]		

LARCVDHT645 IH17 01 ORBITER CANOPY (RPRC33) (16 MAR 76)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	.500

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.6961 PO = 111.17 TO = 1233.0 HO = .31093-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

T/C NO	Y .0470	.1780	.1960	.2130
1.000	.0205			
2.000	.0078			
3.000	.0095			
4.000				.0014
5.000			.0039	
6.000		.0022		

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.6961 PO = 111.17 TO = 1233.0 HO = .31093-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

T/C NO	Y .0470	.1780	.1960	.2130
1.000	.0183			
2.000	.0059			
3.000	.0076			
4.000				.0013
5.000			.0034	
6.000		.0019		

TABULATED SOURCE DATA, H17, LARC VDHT 646-647 PAGE [illegible]

LARCVDHT646 [illegible] ORBITER CANOPY (RPRC34) (16 MAR 76)

REFERENCE DATA

SREF = [illegible] SQ.FT.	XMRP =	.0000 IN.	
LREF = [illegible] IN.	YMRP =	.0000 IN.	
BREF = [illegible] IN.	ZMRP =	.0000 IN.	
SCALE = [illegible]			

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000	
BETA =	.000	RN/L =	2.000	

[illegible] = 8.000 HAW HT [illegible] = .850 MACH = 7.9098 PO = 491.13 TO = 1348.7 HO = .64181-01

SECTION [illegible] ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

[illegible]	[illegible]	[illegible]	.850	2130
[illegible]	[illegible]			
[illegible]	[illegible]			
[illegible]	[illegible]			
[illegible]				.0009
[illegible]			.0025	
[illegible]		.0027		

[illegible] = 8.000 HAW HT 2 = .900 MACH = 7.9098 PO = 491.13 TO = 1348.7 HO = .64181-01

SECTION [illegible] ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

[illegible]	[illegible]	[illegible]	.960	2130
[illegible]	[illegible]			
[illegible]	[illegible]			
[illegible]	[illegible]			
[illegible]				.0008
[illegible]			.0023	
[illegible]		.0024		

DATE 15 MAR 76 TABULATED SOURCE DATA, IH17, LARC VDHT 646-647 PAGE 71

LARCVDHT646 IH17 O1 ORBITER CANOPY (RPRC35) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0089

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9622 PO = 741.56 TO = 1377.1 HO = .80824-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
TAP NO				
1.000	.0220			
2.000	.0077			
3.000	.0063			
4.000				.0007
5.000			.0021	
6.000		.0021		

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9622 PO = 741.56 TO = 1377.1 HO = .80824-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.1780	.1960	.2130
TAP NO				
1.000	.0198			
2.000	.0059			
3.000	.0058			
4.000				.0006
5.000			.0019	
6.000		.0019		

LARCVDHT646 IH17 O1 ORBITER CANOPY (RPRC36) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 HAW HT (1) = .850 MACH = 8.1059 PO = 2532.5 TO = 1460.6 HO = .14385

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.0780	.1860	2.30
TC NO				
1.000	.0243			
2.000	.0085			
3.000	.0080			
4.000				.0012
5.000			.0025	
6.000		.0034		

RN/L (1) = 10.000 HAW HT (1) = .900 MACH = 8.1059 PO = 2532.5 TO = 1460.6 HO = .14385

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE H/HREF

Y	.0470	.0780	.1860	2.30
TC NO				
1.000	.0219			
2.000	.0077			
3.000	.0072			
4.000				.0011
5.000			.0023	
6.000		.0031		

LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK (RPRT01) (16 MAR 76)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	.100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.3731 PO = 23.805 TO = 1236.7 HO = .19479-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															
90.000															.0155
112.500												.2916	.0444	.0125	.0308
180.000	1925	.0338	.0639	.0107	.0102	.0657	.0546	.0000	.0300	.0000	.3435	.4423	.1596	.0260	.0880

****

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0113								.0049			
45.000				.0066				.0084				.0060			
67.500		.0093		.0030				.0099				.0157		.0074	
90.000	.0074	.0109		.0286		.0107		.0253		.0084		.0255		.0077	
112.500	.0117	.0104		.0046		.0112		.0381		.0083		.0267		.0063	
135.000	.0112	.0113	.0102	.0094		.0442		.0303		.0249		.0262		.0257	
157.500				.0127		.0079		.0394		.0268		.0251		.0253	
180.000		-.0070	.0089	.0024	.0091	.0110	.0516	.0189	.0084	.0064	.0317	.0278	.0047	.0082	.0227

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0076				
45.000	.0095		.0100		.0083		
67.500	.0155	.0083	.0130		.0102		
90.000	.0195	.0055	.0157	.0056	.0073		
112.500	.0183	.0049	.0158	.0060	.0048		
135.000	.0216	.0196	.0168	.0073	.0027		
157.500	.0217	.0051	.0188	.0059	.0136		
180.000	.0233	.0086	.0162	.0063	.0106	.0059********	

LARCVDHT646/647 IH17 O1+TB EXTERNAL TANK (RPRT01)

RN/L (1/L) = .100 HAW/HT(2) = .900 MACH = 7.3731 PO = 23.805 TO = 1236.7 HO = .19479-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

PHI \ X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
67.500															.0138
90.000												.2573	.0396	.0112	.0275
112.500														.0232	.0782
180.000	.1706	.0301	.0569	.0095	.0091	.0585	.0487	.0000	.0267	.0000	.3026	.3881	.1416	***	****

PHI \ X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
.000				.0101								.0044			
45.000				.0059				.0075				.0053			
67.500		.0083		.0080				.0089				.0140		.0066	
90.000	.0066	.0097		.0255		.0095		.0225		.0075		.0228		.0068	
112.500	.0104	.0092		.0041		.0100		.0340		.0074		.0238		.0056	
135.000	.0100	.0100	.0091	.0084		.0127		.0270		.0222		.0233		.0229	
157.500				.0113		.0071		.0351		.0239		.0224		.0225	
180.000		-.0088	.0060	.0022	.0081	.0098	.0460	.0169	.0075	.0057	.0282	.0247	.0042	.0073	.0203

PHI \ X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
.000			.0058				
45.000	.0085		.0090		.0074		
67.500	.0138	.0074	.0116		.0091		
90.000	.0174	.0049	.0140	.0050	.0065		
112.500	.0183	.0043	.0141	.0053	.0043		
135.000	.0193	.0166	.0150	.0065	.0024		
157.500	.0194	.0045	.0168	.0052	.0121		
180.000	.0207	.0076	.0144	.0056	.0095	.0053*********	

LARCVDHT646/647 IH17 01+T8 EXTERNAL TANK (RPRT02) (16 MAR 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT XMRP = .0000 IN
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 500

T_ (1) = .500 HAW/HT(1) = .850 MACH = 7.7041 PC = 117.18 TO = 1270.3 HO = 32:05-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	3000
PHI															
67.500															.0156
90.000												.3158	.0442	.0113	.0312
112.500														.0249	.0934
180.000	.2091	.0356	.0564	.0072	.0099	.0696	.0560	.0000	.0308	0000	.3590	.4806	.1725		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0086								.0052			
45.000				.0051				.0059				.0138			
67.500		.0094		.0080				.0120				.0141		.0098	
90.000	.0053	.0087		.0296		.0081		.0317		.0069		.0257		.0056	
112.500	.0099	.0083		[illegible]		.0086		.0415		.0073		.0267		.0059	
135.000	.0097	.0078	.0090	[illegible]		-.0092		.0327		.0238		.0258		.0249	
157.500				[illegible]		.0084		.0393		.0273		.0253		[illegible]	
180.000		********	.0085	.0008	.0068	.0072	.0563	.0201	.0043	.0051	.0304	.0303	.0033	.0059	.0227

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0151				
45.000	.0115		.0092		.0091		
67.500	.0145	.0116	.0144		.0132		
90.000	.0183	.0038	.0162	.0035	.0157		
112.500	.0189	.0019	.0204	.0076	.0167		
135.000	.0241	.0240	.0212	.0233	.0179		
157.500	.0239	.0044	.0153	.0022	.0146		
180.000	.0209	.0103	.0192	.0062	.0195	.0.30	********

LARCVDHT646/647 IH17 OI+T8 EXTERNAL TANK (RPRT02)

RN/L = [illegible] .500 HAW HT. 2) = .900 MACH = 7.7041 PO = 117.18 TO = 1270.3 HO = .32105-01

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0140
90.000												.2766	.0395	.0102	.0278
112.500														.0223	.0830
180.000	.1645	.0319	.0591	.0065	.0088	.0620	.0499	.0000	.0276	.0000	.3152	.4164	.1525		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0077								.0047			
45.000				.0146				.0052				.0123			
67.500		.0064		.0071				.0107				.0125		.0089	
90.000	.0047	.0079		.0264		.0072		.0283		.0062		.0229		.0050	
112.500	.0067	.0075		.0034		.0077		.0371		.0065		.0238		.0053	
135.000	.0087	.0070	.0081	.0070		-.0046		.0292		.0213		.0230		.0223	
157.500				.0062		.0075		.0351		.0244		.0226		.0226	
180.000		********	.0077	.0079	.0051	.0064	.0501	.0182	.0039	.0046	.0271	.0270	.0030	.0053	.0203

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9731
PHI							
.000			.0135				
45.000	.0103		.0142		.0081		
67.500	.0129	.0104	.0139		.0118		
90.000	.0169	.0034	.0145	.0031	.0141		
112.500	.0165	.0017	.0182	.0068	.0149		
135.000	.0215	.0024	.0158	.0208	.0160		
157.500	.0214	.0039	.0135	.0020	.0131		
180.000	.0146	.0092	.0177	.0055	.0175	.0116********	

LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK (RPRT03) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9115 PO = 497.82 TO = 1379.4 HC = .67283-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0147
90.000												.3230	.0435	.0099	.0300
112.500														.0236	.0990
180.000	.2111	.0375	.0701	.0079	.0080	.0768	.0577	.0000	.0319	.0000	.3747	.5114	.1773		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0064								.0054			
45.000				.0056				.0070				.0169			
67.500		.0074		.0095				.0237				.0223		.0112	
90.000	.0079	.0081		.0311		.0068		.0380		.0064		.0229		.0037	
112.500	.0090	.0078		.0023		.0080		.0374		.0050		.0239		.0059	
135.000	.0089	.0076	.0081	.0067		.0038		.0258		.0238		.0249		.0237	
157.500				.0054		.0075		.0333		.0239		.0257		.0247	
180.000		********	.0085	.0010	.0069	.0071	.0678	.0270	.0042	.0053	.0270	.0292	.0037	.0051	.0202

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0140				
45.000	.0172		.0169		.0100		
67.500	.0143	.0163	.0111		.0110		
90.000	.0152	.0029	.0135	.0028	.0143		
112.500	.0188	.0037	.0189	.0083	.0161		
135/000	.0240	.0223	.0217	.0210	.0158		
157.500	.0234	.0036	.0140	.0028	.0142		
180.000	.0176	.0104	.0187	.0055	.0175	.0187	********

C 6

DATE 16 MAR 76 TABULATED SOURCE DATA, IH17, LARC VDHT 646-647

(RPRT03)

LARCVDHT646/647 IH17 01+T8 EXTERNAL TANK

RN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9115 PO = 497.82 TO = 1379.4 HO = .67283-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0132
90.000												.2798	.0391	.0089	.0270
112.500														.0213	.0802
180.000	.1856	.0337	.0627	.0071	.0072	.0686	.0517	.0000	.0287	.0000	.3240	.4322	.1566		*******

X/L	.3250	.3500	.3750	.4000	.4250	.4500	4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0058								.0049			
45.000				.0051				.0063				.0152			
67.500		.0067		.0086				.0213				.0201		.0101	
90.000	.0071	.0073		.0273		.0052		.0341		.0058		.0206		.0033	
112.500	.0081	.0071		.0020		.0072		.0336		.0045		.0215		.0053	
135.000	.0080	.0069	.0073	.0060		.0027		.0232		.0214		.0224		.0213	
157.500				.0049		.0068		.0299		.0215		.0231		.0223	
180.000		********	.0077	.0009	.0062	.0064	.0606	.0243	.0037	.0048	.0243	.0263	.0034	.0046	.0182

X/L	.7000	.7500	.8000	.8500	.9000	.9345	9738
PHI							
.000			.0126				
45.000	.0155		.0153		.0090		
67.500	.0129	.0147	.0100		.0099		
90.000	.0137	.0026	.0122	.0025	.0129		
112.500	.0169	.0034	.0170	.0075	.0145		
135.000	.0216	.0201	.0195	.0189	.0143		
157.500	.0211	.0033	.0126	.0025	.0128		
180.000	.0159	.0093	.0169	.0050	.0158	.0169	*********

LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK (RPRT04) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9609 PO = 735.96 TO = 1395.9 HO = .80603-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0152
90.000												.3299	.0431	.0100	.0312
112.500														.0229	.0993
180.000	.2089	.0386	.0714	.0080	.0082	.0834	0569	.0000	.0327	.0000	.3933	.5375	.1748		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0066								.0056			
45.000				.0049				.0063				.0175			
57.500		.0076		.0097				.0240				.0229		.0137	
90.000	.0078	.0082		.0321		.0069		.0412		.0060		.0223		.0039	
112.500	.0091	.0079		.0028		.0081		.0371		.0050		.0240		.0060	
135.000	.0089	.0075	.0077	.0067		.0034		.0245		.0238		.0255		.0240	
157.500				.0050		.0072		.0322		.0236		.0265		.0247	
180.000		********	.0082	.0012	.0068	.0069	.0712	.0289	.0038	.0050	.0267	.0294	.0031	.0048	.0203

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0155				
45.000	.0185		.0156		.0091		
67.500	.0148	.0171	.0117		.0108		
90.000	.0150	.0028	.0134	.0037	.0139		
112.500	.0193	.0057	.0188	.0100	.0155		
135.000	.0242	.0226	.0221	.0210	.0159		
157.500	.0241	.0042	.0135	.0022	.0139		
180.000	.0173	.0120	.0187	.0065	.0175	.0179	********

DATE 16 MAR 76

TABULATED SOURCE DATA, IH17, LARC VDHT 646-647

(RPRT04)

LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9609 PO = 735.96 TO = 1395.9 HO = .80603-01

SECTION (1)EXTERNAL TANK

DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0137
90.000												.2860	.0387	.0090	.0281
112.500														.0207	.0886
180.000	.1840	.0348	.0640	.0073	.0074	.0746	.0511	.0000	.0294	.0000	.3356	.4534	.1546		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0059								.0050			
45.000				.0044				.0057				.0158			
67.500		.0069		.0087				.0216				.0206		.0124	
90.000	.0070	.0074		.0289		.0062		.0371		.0054		.0201		.0035	
112.500	.0082	.0071		.0025		.0073		.0334		.0045		.0217		.0055	
135.000	.0080	.0068	.0070	.0061		.0025		.0221		.0214		.0229		.0217	
157.500				.0045		.0065		.0290		.0213		.0238		.0223	
180.000		********	.0074	.0011	.0061	.0062	.0638	.0260	.0034	.0045	.0240	.0265	.0028	.0043	.0183

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0140				
45.000	.0167		.0140		.0082		
67.500	.0134	.0154	.0106		.0098		
90.000	.0135	.0025	.0121	.0033	.0125		
112.500	.0174	.0051	.0170	.0090	.0140		
135.000	.0218	.0204	.0199	.0190	.0144		
157.500	.0217	.0038	.0121	.0020	.0126		
180.000	.0156	.0108	.0169	.0059	.0158	.0162	********

REFERENCE DATA

SREF	= 2690.0000 SQ.FT.	XMRP	=	.0000 IN.	
LREF	= 474.8000 IN.	YMRP	=	.0000 IN.	
BREF	= 936.7000 IN.	ZMRP	=	.0000 IN.	
SCALE	= .0059				

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	10.000

RN/L (1) = 10.000 HAW/HT(1) = .850 MACH = 8.1061 PO = 2535.6 TO = 1448.2 HO = .14397

SECTION (1)EXTERNAL TANK

DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0168
90.000												.3854	.0465	.0108	.0383
112.500														.0246	.1096
180.000	.2358	.0462	.0843	.0081	.0087	.1295	.0847	.0000	.0382	.0000	.4535	.7116	.1937		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0059								.0121			
45.000				.0052				.0117				.0246			
67.500		.0081		.0127				.0259				.0247		.0193	
90.000	.0079	.0087		.0395		.0069		.0444		.0061		.0236		.0040	
112.500	.0097	.0081		.0044		.0082		.0429		.0040		.0317		.0100	
135.000	.0092	.0084	.0083	.0071		.0032		.0322		.0374		.0408		.0331	
157.500				.0058		.0073		.0462		.0294		.0451		.0357	
180.000		********	.0084	.0017	.0068	.0070	.0858	.0308	.0040	.0042	.0316	.0363	.0046	.0032	.0268

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0231				
45.000	.0183		.0161		.0117		
67.500	.0180	.0234	.0141		.0138		
90.000	.0170	.0031	.0165	.0063	.0189		
112.500	.0273	.0090	.0265	.0154	.0213		
135.000	.0370	.0307	.0304	.0276	.0206		
157.500	.0359	.0090	.0156	.0025	.0187		
180.000	.0191	.0198	.0264	.0113	.0244	.0215	********

DATE 16 MAR 76 TABULATED SOURCE DATA, IH17, L.RC VDHT 646-647 PAGE 82

LARCVDHT646/647 IH17 OI+TB EXTERNAL TANK (RPRT05)

RN/L (1) = 10.000 HAW/HT(2) = .900 MACH = 8.1061 PO = 2535.6 TO = 1448.2 HO = 14397

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0151
90.000												.3197	.0417	.0098	.0343
112.500														.0221	.0968
180.000	.2031	.0414	.0749	.0073	.0078	.1132	.0756	.0000	.0344	.0000	.3662	.5148	.1683		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0053								.0109			
45.000				.0047				.0105				.0221			
67.500		.0073		.0114				.0234				.0223		.0174	
90.000	.0072	.0078		.0356		.0063		.0398		.0055		.0213		.0036	
112.500	.0087	.0073		.0040		.0074		.0386		.0037		.0285		.0091	
135.000	.0083	.0076	.0075	.0064		.0026		.0290		.0336		.0366		.0298	
157.500				.0052		.0066		.0415		.0265		.0404		.0321	
180.000		********	.0076	.0016	.0062	.0063	.0765	.0278	.0036	.0038	.0284	.0326	.0041	.0029	.0242

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0208				
45.000	.0166		.0145		.0106		
67.500	.0163	.0211	.0128		.0124		
90.000	.0153	.0028	.0149	.0057	.0171		
112.500	.0246	.0081	.0239	.0139	.0192		
135.000	.0332	.0277	.0273	.0249	.0186		
157.500	.0323	.0082	.0150	.0022	.0169		
180.000	.0172	.0179	.0238	.0102	.0220	.0194	********

DATE 16 MAR 76 TABULATED SOURCE DATA, IH17, LARC VDHT 646-647 PAGE 83

LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK (RPRT06) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.3731 PO = 23.805 TO = 1230.1 HO = .19473-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0243
90.000												.3244	.0547	.0099	.0452
112.500														.0331	.1139
180.000	.2305	.0300	.0846	.0158	.0162	.0961	.0649	.0000	.0249	.0000	.3561	.4535	.1956		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0091								.0074			
45.000				.0103				.0091				.0100			
67.500		.0079		.0151				.0169				.0178		.0084	
90.000	.0109	.0070		.0431		.0097		.0360		.0067		.0270		.0045	
112.500	.0097	.0091		.0052		.0073		.0458		.0059		.0322		.0078	
135.000	.0104	.0118	.0057	.0124		.0071		.0384		.0311		.0303		.0293	
157.500				.0150		.0060		.0456		.0312		.0309		.0303	
180.000		********	.0101	.0022	.0073	.0061	.0643	.0271	.0056	.0051	.0356	.0322	.0038	.0029	.0261

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0054				
45.000	.0091		.0104		.0102		
67.500	.0156	.0070	.0149		.0133		
90.000	.0210	.0044	.0165	.0032	.0123		
112.500	.0225	.0039	.0212	.0051	.0100		
135.000	.0285	.0272	.0248	.0182	.0085		
157.500	.0287	.0057	.0186	.0036	.0159		
180.000	.0225	.0068	.0230	.0043	.0164	.0050********	

LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK (RPRT06)

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.3731 PO = 23.805 TO = 1230.1 HO = .19473-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0216
90.000												.2853	.0487	.0088	.0401
112.500														.0295	.1009
180.000	.2035	.0268	.0751	.0141	.0144	.0853	.0577	.0000	.0222	.0000	.3133	.3970	.1729		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0081								.0066			
45.000				.0092				.0081				.0089			
67.500		.0070		.0134				.0150				.0158		.0075	
90.000	.0097	.0062		.0383		.0086		.0320		.0060		.0240		.0040	
112.500	.0086	.0081		.0047		.0065		.0407		.0052		.0286		.0070	
135.000	.0093	.0105	.0051	.0111		.0041		.0341		.0277		.0269		.0260	
157.500				.0134		.0053		.0405		.0277		.0275		.0270	
180.000		********	.0090	.0020	.0065	.0055	.0571	.0241	.0050	.0045	.0317	.0286	.0034	.0026	.0233

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0049				
45.000	.0081		.0092		.0091		
67.500	.0139	.0063	.0132		.0118		
90.000	.0187	.0039	.0148	.0028	.0110		
112.500	.0200	.0035	.0189	.0046	.0089		
135.000	.0253	.0242	.0221	.0162	.0076		
157.500	.0255	.0051	.0165	.0032	.0142		
180.000	.0201	.0060	.0204	.0038	.0146	.0054*********	

LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK (RPRT07) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9615 PO = 737.51 TO = 1396.0 HO = .81195-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0229
90.000												.3703	.0571	.0073	.0447
112.500														.0322	.1278
180.000	.2547	.0330	.0943	.0141	.0154	.1201	.0665	.0000	.0275	.0000	.4038	.5345	.2161		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0079								.0173			
45.000				.0086				.0153				.0322			
67.500		.0079		.0161				.0450				.0169		.0127	
90.000	.0103	.0060		.0634		.0091		.0433		.0041		.0221		.0069	
112.500	.0066	.0079		.0045		.0043		.0389		.0047		.0312		.0127	
135.000	.0087	.0118	.0060	.0122		.0041		.0290		.0319		.0326		.0275	
157.500				.0128		.0025		.0381		.0264		.0363		.0292	
180.000		********	.0095	.0017	.0063	.0047	.0792	.0550	.0056	.0033	.0321	.0292	.0062	.0026	.0255

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0076				
45.000	.0051		.0085		.0076		
67.500	.0137	.0080	.0118		.0125		
90.000	.0196	.0027	.0156	.0049	.0151		
112.500	.0235	.0076	.0221	.0084	.0179		
135.000	.0286	.0259	.0255	.0242	.0186		
157.500	.0282	.0104	.0169	.0077	.0160		
180.000	.0215	.0192	.0224	.0072	.0203	.0045********	

LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK (RPRT07)

PN (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9615 PO = 737.51 TO = 1396.0 HO = .81195-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0206
90.000												.3173	.0512	.0066	.0401
112.500														.0289	.1136
180.000	.2224	.0297	.0841	.0127	.0139	.1054	.0596	.0000	.0248	.0000	.3427	.4475	.1897		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0072								.0156			
45.000				.0078				.0138				.0290			
67.500		.0071		.0145				.0405				.0152		.0115	
90.000	.0093	.0054		.0563		.0082		.0389		.0037		.0199		.0063	
112.500	.0059	.0071		.0040		.0039		.0350		.0043		.0280		.0115	
135.000	.0078	.0107	.0054	.0110		.0032		.0261		.0287		.0293		.0248	
157.500				.0116		.0022		.0343		.0238		.0327		.0263	
180.000		********	.0085	.0016	.0057	.0043	.0709	.0494	.0051	.0030	.0289	.0263	.0056	.0023	.0230

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0069				
45.000	.0046		.0077		.0069		
67.500	.0124	.0072	.0107		.0113		
90.000	.0177	.0025	.0141	.0044	.0137		
112.500	.0212	.0069	.0200	.0076	.0161		
135.000	.0257	.0233	.0230	.0218	.0168		
157.500	.0254	.0094	.0153	.0069	.0144		
180.000	.0194	.0174	.0202	.0065	.0183	.0041*********	

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (RPRT08) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.4044 PO = 29.775 TO = 1231.5 HO = .30653-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0068
90.000												.1364	.0395	.0103	.0130
112.500														.0234	.0332
180.000	.0890	.0329	.0269	.0033	.0037	.0388	0189	.0000	.0271	.0000	.3542	.2112	.0741		.0524

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0037								.0033			
45.000				.0036				.0023				.0036			
67.500		.0098		.0048				.0056				0053		.0087	
90.000	.0096	.0092		.0159		.0083		.0113		.0065		.0118		.0050	
112.500	.0103	.0092		.0032		.0080		.0159		.0049		.0133		.0070	
135.000	.0113	.0053	.0088	.0033		********		.0106		.0114		.0104		.0096	
157.500				.0043		.0036		.0129		.0116		.0106		.0104	
180.000		.0073	.0043	.0010	.0048	.0050	.0195	.0085	.0022	.0029	.0152	.0125	.0026	.0026	.0096

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0032				
45.000	.0039		.0036		.0035		
67.500	.0061	.0085	.0060		.0043		
90.000	.0094	.0048	.0054	.0038	.0020		
112.500	.0069	.0060	.0035	.0070	.0010		
135.000	.0069	.0047	.0025	.0008	.0007		
157.500	.0082	.0028	.0072	.0025	.0045		
180.000	.0106	.0028	.0065	.0018	.0012	.0032	.0028

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (RPRT08)

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.4044 PO = 29.775 TO = 1231.5 HO = .30653-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0061
90.000												.1203	.0351	.0092	.0115
112.500														.0208	.0295
180.000	.0787	.0293	.0239	.0029	.0033	.0345	.0168	.0000	.0242	.0000	.3109	.1854	.0656		.0464

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0033								.0029			
45.000				.0032				.0020				.0032			
67.500		.0087		.0043				.0050				.0047		.0077	
90.000	.0086	.0082		.0142		.0074		.0101		.0058		.0105		.0045	
112.500	.0092	.0082		.0029		.0071		.0141		.0044		.0119		.0063	
135.000	.0101	.0047	.0079	.0029		********		.0094		.0101		.0092		.0085	
157.500				.0038		.0032		.0115		.0103		.0094		.0092	
180.000		.0065	.0038	.0009	.0042	.0045	.0173	.0075	.0020	.0026	.0135	.0111	.0023	.0023	.0085

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0028				
45.000	.0035		.0032		.0031		
67.500	.0054	.0076	.0054		.0038		
90.000	.0084	.0043	.0048	.0034	.0018		
112.500	.0061	.0054	.0031	.0063	.0009		
135.000	.0062	.0042	.0022	.0007	.0006		
157.500	.0073	.0025	.0064	.0022	.0040		
180.000	.0094	.0025	.0058	.0016	.0011	.0028	.0025

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (RPRT09) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.6928 PO = 108.93 TO = 1269.4 HO = .30968-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0199
90.000												.3228	.0569	.0094	.0412
112.500														.0257	.0737
180.000	2.85	.0299	.1032	.0109	.0119	.0957	.0471	.0000	.0254	.0000	.3602	.5055	.1722		.1154

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0073								.0081			
45.000				.0073				.0091				.0132			
67.500		.0081		.0123				.0128				.0152		.0118	
90.000	.0083	.0065		.0372		.0061		.0287		.0048		.0275		.0050	
112.500	.0089	.0074		.0058		.0057		.0378		.0041		.0300		.0104	
135.000	.0070	.0095	.0077	.0065		********		.0290		.0228		.0245		.0127	
157.500				.0097		.0081		.0344		.0227		.0242		.0238	
180.000		.0156	.0090	.0024	.0081	.0081	.0497	.0198	.0058	.0059	.0314	.0288	.0044	.0049	.0248

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0137				
45.000	.0099		.0089		.0094		
67.500	.0154	.0094	.0162		.0149		
90.000	.0220	.0040	.0182	.0038	.0163		
112.500	.0217	.0065	.0195	.0102	.0170		
135.000	.0236	.0231	.0237	.0229	.0168		
157.500	.0226	.0043	.0197	.0032	.0171		
180.000	.0236	.0133	.0201	.0063	.0187	.0119	.0089

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (RPRT09)

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.6928 PO = 108.±3 TO = 1269.4 HO = .30968-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0177
90.000												.2840	.0507	.0084	.0367
112.500														.0229	.0657
180.000	.1845	.0268	.0917	.0097	.0106	.0851	0420	.0000	.0227	.0000	.3154	.4407	.1526		.1025

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0065								.0072			
45.000				.0066				.0081				.0118			
67.500		.0073		.0110				.0115				.0136		.0106	
90.000	.0075	.0058		.0332		.0054		.0256		.0043		.0246		.0044	
112.500	.0080	.0066		.0052		.0051		.0337		.0036		.0268		.0093	
135.000	.0053	.0085	.0069	.0058		********		.0259		.0204		.0219		.0203	
157.500				.0087		.0073		.0307		.0203		.0216		.0213	
180.000		.0140	.0080	.0021	.0072	.0073	.0443	.0177	.0052	.0053	.0281	.0257	.0039	.0044	.0222

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0123				
45.000	.0089		.0080		.0084		
67.500	.0137	.0084	.0145		.0133		
90.000	.0196	.0036	.0163	.0034	.0146		
112.500	.0194	.0058	.0174	.0091	.0152		
135.000	.0211	.0206	.0212	.0204	.0150		
157.500	.0203	.0038	.0176	.0029	.0153		
180.000	.0211	.0119	.0179	.0056	.0167	.0107	.0079

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (RPRT10) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9104 PO = 493.62 TO = 1339.3 HO = .66755-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

PHI \ X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
67.500															.0250
90.000												.3348	.0854	.0141	.0641
112.500														.0336	.1185
180.000	.2143	.0339	.2415	.0125	.0131	.1535	.0497	.0000	.0280	.0000	.3735	.5428	.1745		.1015

PHI \ X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
.000				.0053								.0165			
45.000				.0109				.0188				.0142			
67.500		.0089		.0188				.0170				.0171		.0173	
90.000	.0086	.0104		.0496		.0061		.0302		.0057		.0274		.0089	
112.500	.0120	.0096		.0070		.0097		.0371		.0079		.0272		.0152	
135.000	.0115	.0093	.0100	.0057		********		.0294		.0238		.0233		.0219	
157.500				.0126		.0071		.0350		.0248		.0243		.0227	
180.000		.0162	.0090	.0028	.0077	.0087	.0580	.0261	.0090	.0052	.0312	.0279	.0086	.0036	.0218

PHI \ X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
.000			.0158				
45.000	.0108		.0115		.0108		
67.500	.0194	.0144	.0164		.0107		
90.000	.0192	.0062	.0144	.0076	.0136		
112.500	.0184	.0130	.0173	.0149	.0152		
135.000	.0210	.0204	.0206	.0201	.0150		
157.500	.0210	.0102	.0158	.0037	.0136		
180.000	.0233	.0178	.0175	.0115	.0167	.0123	.0128

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (RPRT10)

RN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9104 PO = 493.62 TO = 1339.3 HO = .66755-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0224
90.000												.2913	.0760	.0126	.0573
112.500														.0301	.1057
180.000	.1889	.0303	.2113	.0112	.0118	.1359	.0446	.0000	.0251	.0000	.3198	.4620	.1544		.0905

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0048								.0149			
45.000				.0098				.0169				.0128			
67.500		.0080		.0169				.0153				.0154		.0155	
90.000	.0077	.0093		.0445		.0055		.0271		.0051		.0247		.0080	
112.500	.0108	.0086		.0063		.0087		.0333		.0071		.0245		.0146	
135.000	.0103	.0084	.0090	.0051		********		.0264		.0214		.0210		.0197	
157.500				.0114		.0064		.0314		.0223		.0219		.0204	
180.000		.0146	.0081	.0025	.0069	.0078	.0520	.0234	.0081	.0047	.0280	.0250	.0077	.0032	.0196

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0142				
45.000	.0097		.0103		.0097		
67.500	.0174	.0129	.0147		.0096		
90.000	.0173	.0055	.0130	.0069	.0122		
112.500	.0165	.0116	.0156	.0134	.0137		
135.000	.0189	.0183	.0185	.0181	.0135		
157.500	.0189	.0092	.0142	.0033	.0122		
180.000	.0210	.0160	.0158	.0103	.0150	.0111	.0115

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (RPRT11) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 47..8000 IN. YMRP = .0000 IN
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9591 PO = 723.36 TO = 1376.4 HO = .79966-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0273
90.000												.3403	.0921	.0148	.0727
112.500														.0367	.1259
180.000	.2124	.0352	.2560	.0132	.0136	.1749	.0539	.0000	.0297	.0000	.3907	.5632	.1723		.0967

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0061								.0164			
45.000				.0115				.0193				.0179		.0174	
67.500		.0097		.02.9				.0190				.0179		.0098	
90.000	.0092	.0110		.0522		.0058		.0301		.0054		.0274		.0170	
112.500	.0127	.0104		.0077		.0099		.0390		.0081		.0272		.0241	
135.000	.0124	.0109	.0102	.0073		********		.0308		.0258		.0250		.0247	
157.500				.0.34		.0080		.0372		.0264		.0261		.0039	
180.000		.0178	.0102	.0034	.0085	.0094	.0604	.0265	.0099	.0052	.0321	.0282	.0091		.0211

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0170				
45.000	.0126		.0118		.0099		
67.500	.0188	.0139	.0152		.0106		
90.000	.0187	.0071	.0136	.0085	.0136		
112.500	.0180	.0130	.0176	.0156	.0156		
135.000	.0237	.0223	.0214	.0207	.0151		
157.500	.0240	.0105	.0152	.0046	.0135		
180.000	.0232	.0188	.0177	.0115	.0169	.0132	.0133

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (RPRT11)

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9591 PO = 723.36 TO = 1376.4 HO = .79966-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0246
90.000														.0133	.0650
112.500												.2945	.0821	.0329	.1121
180.000	.1868	.0316	.2222	.0119	.0123	.1542	.0484	.0000	.0267	.0000	.3330	.4742	.1522		.0862

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0055								.0148			
45.000				.0103				.0174				.0161			
67.500		.0087		.0197				.0171				.0161		.0157	
90.000	.0083	.0099		.0469		.0053		.0271		.0049		.0247		.0089	
112.500	.0114	.0094		.0069		.0089		.0350		.0073		.0244		.0153	
135.000	.0111	.0098	.0092	.0065		********		.0276		.0232		.0225		.0217	
157.500				.0121		.0072		.0334		.0237		.0234		.0222	
180.000		.0160	.0092	.0031	.0077	.0084	.0541	.0238	.0089	.0047	.0289	.0254	.0082	.0035	.0190

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0153				
45.000	.0114		.0106		.0089		
67.500	.0169	.0125	.0137		.0096		
90.000	.0169	.0064	.0122	.0077	.0123		
112.500	.0162	.0117	.0158	.0141	.0141		
135.000	.0213	.0201	.0193	.0186	.0136		
157.500	.0216	.0095	.0137	.0041	.0122		
180.000	.0209	.0169	.0159	.0103	.0152	.0119	.0120

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (RPRT12) (16 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.
LREF =	474.8000 IN.	YMRP =	.0000 IN.
BREF =	936.7000 IN.	ZMRP =	.0000 IN.
SCALE =	.0059		

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	10.000

RN/L (1) = 10.000 HAW/HT(1) = .850 MACH = 8.1063 PO = 2541.3 TO = 1430.1 HO = .14365

SECTION (1)EXTERNAL TANK

DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0340
90.000												.3858	.1267	.0186	.0872
112.500														.0479	.2477
180.000	.2279	.0416	.5336	.0133	.0179	.2189	.0683	.0000	.0350	.0000	.4761	.7027	.1781		.1174

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0131								.0233			
45.000				.0135				.0222				.0279			
67.500		.0116		.0346				.0340				.0186		.0229	
90.000	.0116	.0138		.0679		.0097		.0343		.0120		.0311		.0138	
112.500	.0160	.0118		.0100		.0121		.0460		.0091		.0404		.0227	
135.000	.0136	.0130	.0134	.0151		********		.0370		.0494		.0412		.0419	
157.500				.0185		.0121		.0442		.0395		.0476		.0397	
180.000		.0274	.0147	.0052	.0137	.0117	.0722	.0374	.0129	.0121	.0455	.0297	.0163	.0202	.0319

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9[illegible]38
PHI							
.000			.0215				
45.000	.0201		.0138		.0121		
67.500	.0181	.0197	.0184		.0197		
90.000	.0242	.0179	.0236	.0194	.0225		
112.500	.0312	.0203	.0289	.0196	.0228		
135.000	.0377	.0343	.0310	.0291	.0212		
157.500	.0416	.0209	.0233	.0203	.0247		
180.000	.0280	.0216	.0294	.0179	.0265	.0185	.0165

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (RPRT12)

RN/L (1) = 10.000 HAW/HT(2) = .900 MACH = 8.1063 PO = 2541.3 TO = 1430.1 HO = .14365

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.0305
90.000												.3224	.1130	.0168	.0774
112.500														.0431	.2141
180.000	.1970	.0375	.3893	.0120	.0161	.1843	.0611	.0000	.0316	.0000	.3616	.5163	.1554		.1042

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0118								.0210			
45.000				.0122				.0200				.0251			
67.500		.0105		.0311				.0305				.0168		.0207	
90.000	.0105	.0124		.0608		.0088		.0308		.0109		.0280		.0125	
112.500	.0144	.0107		.0090		.0109		.0412		.0082		.0363		.0204	
135.000	.0122	.0118	.0121	.0136		********		.0333		.0442		.0370		.0376	
157.500				.0167		.0109		.0397		.0354		.0427		.0357	
180.000		.0246	.0133	.0047	.0123	.0105	.0644	.0336	.0117	.0109	.0408	.0267	.0147	.0182	.0287

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0193				
45.000	.0181		.0124		.0109		
67.500	.0163	.0178	.0166		.0178		
90.000	.0218	.0161	.0213	.0175	.0203		
112.500	.0281	.0183	.0260	.0177	.0206		
135.000	.0339	.0309	.0279	.0262	.0191		
157.500	.0374	.0188	.0210	.0183	.0223		
180.000	.0252	.0194	.0265	.0161	.0239	.0167	.0148

LARCVDHT647 IH17 T8 EXTERNAL TANK (RPRT13) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.2734 PO = 14.840 TO = 1235.8 HO = .18053-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0080	
45.000														.0081	
67.500											.0166			.0070	
90.000									.2796		.0296			.0059	
112.500											.0893			.0020	
135.000												.0096		.0074	
157.500														.0076	
180.000	.1819	.0635	.0091	.0100	.0080	.0066	.0000	.0000	.4337	.1532	.1159	.0154	.0095	.0024	.0092

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0063						.0066		
45.000			.0082				.0075				.0053		.0050		.0056
67.500			.0089				.0069				.0055		.0056		.0054
90.000			.0062				.0061				.0055		.0061		.0063
112.500			.0065				.0057				.0044		.0068		.0055
135.000	********		.0059		.0052		.0048		.0048		.0069	.0051	.0060	.0061	.0049
157.500	.0081		.0059		.0060		.0064		.0075		.0048	.0069	.0057	.0061	.0046
180.000	.0083	.0076	.0072	.0087	.0079	.0053	.0057	.0066	.0075	.0046	.0071	.0069	.0059	.0059	.0071

X/L	.9345	.9738
PHI		
180.000	.0054	.0063

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.2734 PO = 14.840 TO = 1235.8 HO = .18053-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0072	
45.000														.0072	
67.500											.0148			.0062	
90.000									.2476		.0264			.0053	
112.500											.0795			.0018	

LARCVDHT647 IH17 T8 EXTERNAL TANK (RPRT13)

RN/L (1) = .100 HAW/HT(2) = .900

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
135.000												.0085		.0066	
157.500														.0068	
180.000	.1615	.0565	.0081	.0089	.0071	.0059	.0000	.0000	.3824	.1361	.1031	.0137	.0085	.0021	.0082

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0056						.0058		
45.000			.0073				.0067				.0047		.0045		.0050
67.500			.0079				.0061				.0049		.0050		.0049
90.000			.0056				.0054				.0049		.0055		.0056
112.500			.0058				.0051				.0039		.0061		.0049
135.000	********		.0052		.0046		.0043		.0043		.0062	.0046	.0053	.0055	.0043
157.500	.0073		.0052		.0053		.0057		.0067		.0043	.0061	.0051	.0054	.0041
180.000	.0074	.0067	.0064	.0077	.0071	.0047	.0051	.0059	.0067	.0041	.0063	.0061	.0053	.0052	.0063

X/L	.9345	.9738
PHI		
180.000	.0049	.0056

LARCVDHT647 IH17 T8 EXTERNAL TANK (RPRT14) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.6879 PO = 105.69 TO = 1255.1 HO = .30594-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0076	
45.000														.0067	
67.500											.0173			.0073	
90.000									.3057		.0319			.0073	
112.500											.0931			.0025	
135.000												.0093		.0091	
157.500														.0081	
180.000	.1952	.0668	.0091	.0100	.0085	.0066	.0000	.0000	.4928	.1623	.1216	.0161	.0090	.0023	.0088

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0068						.0055		
45.000			.0075				.0067				.0056		.0063		.0054
67.500			.0072				.0059				.0065		.0063		.0056
90.000			.0073				.0054				.0069		.0060		.0056
112.500			.0073				.0055				.0065		.0041		.0059
135.000	********		.0072		.0055		.0034		.0050		.0071	.0060	.0064	.0061	.0051
157.500	.0090		.0054		.0060		.0053		.0059		.0064	.0064	.0061	.0069	.0063
180.000	.0090	.0082	.0067	.0052	.0072	.0072	.0064	.0068	.0075	.0060	.0057	.0059	.0070	.0057	.0046

X/L	.9345	.9738
PHI		
180.000	.0046	.0054

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.6879 PO = 105.69 TO = 1255.1 HO = .30594-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0068	
45.000														.0060	
67.500											.0155			.0066	
90.000									.2698		.0285			.0065	
112.500											.0830			.0022	

LARCVDHT647 IH17 T8 EXTERNAL TANK (RPRT14)

RN/L (1) = .500 HAW/HT(2) = .900

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	-.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
135.000												.0083		.0081	
157.500														.0072	
180.000	.1732	.0596	.0081	.0090	.0076	.0059	.0000	.0000	.4313	.1441	.1082	.0144	.0080	.0021	.0079

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0061						.0049		
45.000			.0068				.0060				.0050		.0056		.0049
67.500			.0064				.0053				.0058		.0056		.0050
90.000			.0065				.0048				.0062		.0053		.0050
112.500			.0065				.0050				.0058		.0037		.0053
135.000	********		.0064		.0049		.0031		.0045		.0064	.0054	.0057	.0055	.0046
157.500	.0081		.0048		.0054		.0047		.0053		.0057	.0057	.0055	.0062	.0057
180.000	.0081	.0074	.0060	.0047	.0065	.0065	.0057	.0061	.0067	.0054	.0051	.0053	.0063	.0051	.0041

X/L	.9345	.9738
PHI		
180.000	.0041	.0048

LARCVDHT647 IH17 T8 EXTERNAL TANK (RPRT15) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9096 PO = 490.51 TO = 1372.8 HO = .66874-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0079	
45.000														.0076	
67.500											.0147			.0076	
90.000									.3279		.0313			.0057	
112.500											.0937			.0015	
135.000												.0082		.0076	
157.500														.0073	
180.000	.2108	.0671	.0082	.0082	.0071	.0062	.0000	.0000	.5282	.1733	.1276	.0143	.0077	.0016	.0070

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0057						.0047		
45.000			.0066				.0056				.0051		.0047		.0049
67.500			.0064				.0055				.0054		.0048		.0047
90.000			.0060				.0052				.0052		.0045		.0041
112.500			.0061				.0050				.0049		.0037		.0040
135.000	********		.0059		.0053		.0054		.0050		.0045	.0045	.0046	.0043	.0035
157.500	.0075		.0062		.0049		.0051		.0050		.0046	.0047	.0049	.0058	.0043
180.000	.0072	.0063	.0068	.0070	.0065	.0053	.0055	.0055	.0074	.0053	.0051	.0048	.0047	.0049	.0046

X/L	.9345	.9738
PHI		
180.000	.0052	.0047

RN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9096 PO = 490.51 TO = 1372.8 HO = .66874-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0071	
45.000														.0069	
67.500											.0133			.0069	
90.000									.2868		.0282			.0052	
112.500											.0838			.0014	

LARCVDHT647 IH17 TB EXTERNAL TANK (RPRT:5)

RN/L (1) = 2.000 HAW/HT(2) = .900

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
135.000												.0074		.0068	
157.500														.0065	
180.000	.1866	.0602	.0074	.0074	.0064	.0056	.0000	.0000	.4528	.1540	.1138	.0129	.0069	.0014	.0063

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0051						.0043		
45.000			.0059				.0050				.0046		.0043		.0044
67.500			.0058				.0050				.0049		.0043		.0042
90.000			.0054				.0047				.0047		.0041		.0037
112.500			.0055				.0045				.0044		.0034		.0036
135.000	********		.0053		.0048		.0049		.0046		.0041	.0041	.0041	.0039	.0032
157.500	.0067		.0056		.0045		.0046		.0045		.0041	.0042	.0044	.0052	.0038
180.000	.0065	.0057	.0062	.0063	.0059	.0047	.0049	.0050	.0066	.0048	.0046	.0043	.0043	.0044	.0041

X/L	.9345	.9738
PHI		
180.000	.0047	.0042

LARCVDHT647 1H17 T8 EXTERNAL TANK (RPRT16) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9634 PO = 748.71 TO = 1365.0 HO = .80974-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L / PHI	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
.000														.0071	
45.000														.0071	
67.500											.0142			.0072	
90.000									.3344		.0304			.0055	
112.500											.0943			.0017	
135.000												.0085		.0073	
157.500														.0069	
180.000	.2138	.0669	.0074	.0075	.0067	.0057	.0000	.0000	.5406	.1773	.1293	.0135	.0078	.0019	.0069

X/L / PHI	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
.000							.0055						.0045		
45.000			.0059				.0049				.0048		.0051		.0042
67.500			.0061				.0054				.0051		.0045		.0040
90.000			.0057				.0048				.0051		.0044		.0039
112.500			.005-				.0051				.0045		.0041		.0037
135.000	********		.0058		.0053		.0051		.0046		.0049	.0042	.0045	.0045	.0036
157.500	.0065		.0055		.0047		.0049		.0051		.0053	.0047	.0045	.0056	.0039
180.000	.0075	.0058	.0064	.0066	.0069	.0051	.0053	.0056	.0065	.0047	.0046	.0047	.0045	.0051	.0042

X/L / PHI	.9345	.9738
180.000	.0049	.0047

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9634 PO = 748.71 TO = 1365.0 HO = .80974-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L / PHI	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
.000														.0064	
45.000														.0064	
67.500											.0128			.0065	
90.000									.2901		.0273			.0049	
112.500											.0842			.0016	

DATE 16 MAR 76

TABULATED SOURCE DATA, IH17, LARC VDHT 646-647

(RPRT16)

LARCVDHT647 IH17 T8 EXTERNAL TANK

RN/L (1) = 5.000 HAW/HT(2) = .900

SECTION (1)EXTERNAL TANK

DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
135.000												.007		.0066	
157.500														.0063	
180.000	.1883	.0599	.0067	.0068	.0060	.0052	.0000	.0000	.4570	.1568	.1150	.0121	.0071	.0017	.0062

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0049						.0041		
45.000			.0052				.0044				.0043		.0046		.0038
67.500			.0055				.0048				.0046		.0040		.0036
90.000			.0052				.0043				.0046		.0040		.0035
112.500			.0052				.0046				.0042		.0037		.0034
135.000	********		.0052		.0048		.0046		.0042		.0044	.0038	.0041	.0040	.0034
157.500	.0059		.0049		.0042		.0044		.0046		.0047	.0043	.0041	.0051	.0035
180.000	.0067	.0052	.0057	.0059	.0063	.0046	.0048	.0051	.0058	.0043	.0042	.0042	.0041	.0046	.0038

X/L	.9345	.9738
PHI		
180.000	.0044	.0043

LARCVDHT647 1H17 T8 EXTERNAL TANK (RPRT17) (16 MAR 76)

REFERENCE DATA

SPEF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 HAW/HT(1) = .850 MACH = 8.1058 PO = 2528.1 TO = 1434.9 HO = .14356

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0075	
45.000														.0073	
67.500											.0154			.0072	
90.000									.3848		.0316			.0054	
112.500											.1025			.0015	
135.000												.0080		.0075	
157.500														.0071	
180.000	.2357	.0722	.0077	.0085	.0068	.0061	.0000	.0000	.6856	.1936	.1393	.0147	.0088	.0016	.0077

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0057						.0049		
45.000			.0059				.0054				.0048		.0045		.0049
67.500			.0064				.0052				.0049		.0050		.0049
90.000			.0061				.0053				.0049		.0047		.0042
112.500			.0061				.0054				.0045		.0047		.0041
135.000	••••••••		.0057		.0052		.0048		.0048		.0043	.0043	.0042	.0046	.0039
157.500	.0064		.0061		.0056		.0051		.0049		.0044	.0053	.0047	.0065	.0045
180.000	.0087	.0065	.0066	.0072	.0076	.0055	.0055	.0063	.0072	.0047	.0049	.0051	.0043	.0056	.0043

X/L	.9345	.9738
PHI		
180.000	.0054	.0058

RN/L (1) = 10.000 HAW/HT(2) = .900 MACH = 8.1058 PO = 2528.1 TO = 1434.9 HO = .14356

SECTION (1).XTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0068	
45.000														.0066	
67.500											.0139			.0065	
90.000									.3230		.0285			.0049	
112.500											.0910			.0013	

LARCVDHT647 IH17 T8 EXTERNAL TANK (RPRT17)

RN/L (1) = 10.000 HAW/HT(2) = .900

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
135.000												.0072		.0068	
157.500														.0064	
180.000	.2042	.0645	.0070	.0077	.0062	.0055	.0000	.0000	.5109	.1692	.1230	.0133	.0080	.0014	.0070

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0052						.0044		
45.000			.0053				.0049				.0043		.0041		.0044
67.500			.0058				.0047				.0044		.0045		.0044
90.000			.0055				.0048				.0044		.0043		.0038
112.500			.0055				.0049				.0040		.0043		.0038
135.000	********		.0052		.0047		.0044		.0043		.0039	.0039	.0038	.0042	.0035
157.500	.0058		.0055		.0051		.0046		.0044		.0040	.0048	.0043	.0059	.0041
180.000	.0079	.0059	.0060	.0065	.0069	.0050	.0049	.0057	.0065	.0042	.0044	.0046	.0039	.0051	.0039

X/L	.9345	.9738
PHI		
180.000	.0049	.0052

LARCVDHT647 IH17 TB EXTERNAL TANK (RPRT18) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.2748 PO = 14.910 TO = 1226.3 HO = .19826-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0106	
45.000														.0126	
67.500											.0230			.0139	
90.000									.3333		.0426			.0115	
112.500											.1137			.0017	
135.000												.0139		.0134	
157.500														.0143	
180.000	.2315	.0857	.0162	.0164	.0130	.0135	.0000	.0000	.4758	.1954	.1492	.0185	.0112	.0018	.0084

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0067						.0066		
45.000			.0089				.0088				.0073		.0080		.0072
67.500			.0117				.0094				.0096		.0103		.0099
90.000			.0129				.0116				.0115		.0118		.0109
112.500			.0126				.0132				.0119		.0126		.0126
135.000	********		.0137		.0132		.0133		.0136		.0128	.0130	.0142	.0150	.0121
157.500	.0059		.0144		.0135		.0132		.0132		.0131	.0044	.0118	.0026	.0120
180.000	.0069	.0133	.0126	.0077	.0053	.0134	.0115	.0048	.0043	.0125	.0119	.0065	.0110	.0050	.0130

X/L	.9345	.9738
PHI		
180.000	.0052	.0041

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.2748 PO = 14.910 TO = 1226.3 HO = .19826-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0094	
45.000														.0112	
67.500											.0204			.0123	
90.000									.2934		.0378			.0103	
112.500											.1008			.0016	

LARCVDHT647 IH17 T8 EXTERNAL TANK (RPRT18)

PN/L (1) = .100 HAW/HT(2) = .900

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
135.000												.0123		.0119	
157.500														.0127	
180.000	.2045	.0761	.0144	.0146	.0115	.0120	.0000	.0000	.4171	.1728	.1321	.0164	.0100	.0016	.0074

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0060						.0059		
45.000			.0079				.0073				.0065		.0071		.0064
67.500			.0104				.0084				.0086		.0092		.0088
90.000			.0115				.0103				.0102		.0105		.0097
112.500			.0112				.0117				.0106		.0112		.0112
135.000	********		.0122		.0117		.0118		.0121		.0114	.0116	.0127	.0133	.0108
157.500	.0052		.0128		.0120		.0117		.0117		.0117	.0040	.0105	.0023	.0107
180.000	.0061	.0118	.0112	.0069	.0047	.0119	.0103	.0043	.0038	.0111	.0106	.0058	.0098	.0045	.0116

X/L	.9345	.9738
PHI		
180.000	.0046	.0036

LARCVDHT647 IH17 T8 EXTERNAL TANK (RPRT19) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9577 PO = 715.74 TO = 1387.0 HO = .81670-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0093	
45.000														.0113	
67.500											.0222			.0127	
90.000									.3686		.0426			.0122	
112.500											.1270			.0021	
135.000												.0118		.0133	
157.500														.0144	
180.000	.2527	.0908	.0140	.0155	.0150	.0139	.0000	.0000	5408	.2165	.1686	.0142	.0096	.0014	.0067

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0061						.0052		
45.000			.0080				.0081				.0077		.0079		.0069
67.500			.0106				.0090				.0097		.0105		.0091
90.000			.0120				.0107				.0122		.0120		.0118
112.500			.0140				.0130				.0118		.0125		.0137
135.000	********		.0142		.0132		.0131		.0135		.0135	.0132	.0141	.0146	.0126
157.500	.0025		.0140		.0135		.0133		.0136		.0135	.0033	.0121	.0048	.0112
180.000	.0048	.0142	.0120	.0064	.0044	.0137	.0114	.0041	.0025	.0118	.0107	.0057	.0131	.0028	.0131

X/L	.9345	.9738
PHI		
180.000	.0045	.0022

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9577 PO = 715.74 TO = 1387.0 HO = .81670-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0084	
45.000														.0102	
67.500											.0199			.0115	
90.000									.3177		.0382			.0110	
112.500											.1129			.0019	

LARCVDHT647 IH17 T8 EXTERNAL TANK (RPRT19)

RN/L (1) = 5.000 HAW/HT(2) = .900

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
135.000														.0120	
157.500												.0106		.0129	
180.000	.2213	.0810	.0126	.0140	.0135	.0125	.0000	.0000	.4563	.1904	.1492	.0127	.0087	.0012	.0060

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0055						.0047		
45.000			.0072				.0073				.0069		.0071		.0062
67.500			.0095				.0081				.0087		.0094		.0082
90.000			.0108				.0036				.0110		.0108		.0106
112.500			.0126				.0117				.0107		.0113		.0124
135.000	********		.0128		.0119		.0118		.0122		.0122	.0119	.0127	.0131	.0113
157.500	.0023		.0126		.0122		.0120		.0122		.0122	.0030	.0109	.0043	.0101
180.000	.0043	.0128	.0109	.0058	.0039	.0123	.0103	.0037	.0023	.0106	.0097	.0051	.0119	.0026	.0118

X/L	.9345	.9738
PHI		
180.000	.0041	.0020

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (RPRT20) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.2738 PO = 14.860 TO = 1199.0 HO = .18500-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0099	
45.000														.0077	
67.500											.0146			.0072	
90.000									.2878		.0277			.0064	
112.500											.0671			.0018	
135.000												.0094		.0086	
157.500														.0085	
180.000	.1864	.0494	.0086	.0090	.0071	.0071	.0000	.0000	.4489	.1549	.1110	.0143	.0086	.0018	.0090

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0072						.0065		
45.000			.0075				0070				.0058		.0055		.0056
67.500			.0081				.0063				.0049		.0065		.0052
90.000			.0073				.0058				.0061		.0058		.0046
112.500			.0072				.0075				.0052		.0053		.0055
135.000	********		.0064		.0055		.0069		.0051		.0057	.0055	.0059	.0056	.0051
157.500	.0082		.0054		.0055		.0063		.0055		.0064	.0072	.0052	.0060	.0054
180.000	.0099	.0082	.0078	.0086	.0077	.0070	.0061	.0085	.0073	.0057	.0066	.0066	.0060	.0059	.0059

X/L	.9345	.9738
PHI		
180.000	.0054	.0050

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.2738 PO = 14.860 TO = 1199.0 HO = .18500-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0088	
45.000														.0069	
67.500											.0129			.0064	
90.000									.2536		.0246			.0057	
112.500											.0595			.0016	

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (RPRT20)

RN/L (1) = .100 HAW/HT(2) = .900

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
135.000												.0084		.0077	
157.500														.0075	
180.000	.1648	.0438	.0077	.0080	.0063	.0063	.0000	.0000	.3938	.1371	.0983	.0127	.0077	.0016	.0080

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0064						.0057		
45.000			.0067				.0062				.0051		.0049		.0050
67.500			.0072				.0056				.0044		.0057		.0046
90.000			.0065				.0051				.0054		.0052		.0041
112.500			.0064				.0066				.0047		.0047		.0048
135.000	********		.0056		.0049		.0062		.0045		.0051	.0049	.0052	.0049	.0045
157.500	.0072		.0048		.0049		.0056		.0049		.0057	.0064	.0046	.0053	.0048
180.000	.0088	.0073	.0069	.0077	.0069	.0062	.0054	.0076	.0065	.0051	.0059	.0059	.0053	.0052	.0053

X/L	.9345	.9738
PHI		
180.000	.0048	.0045

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (RPRT21) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.6931 PO = 109.13 TO = 1238.2 HO = .30804-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0082	
45.000														.0082	
67.500											.0157			.0074	
90.000									.3134		.0348			.0064	
112.500											.0682			.0018	
135.000												.0087		.0080	
157.500														.0077	
180.000	.1980	.0734	.0088	.0101	.0070	.0062	.0000	.0000	.5010	.1643	.1090	.0139	.0088	.0017	.0078

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0069						.0050		
45.000			.0072				.0068				.0065		.0058		.0051
67.500			.0076				.0066				.0067		.0061		.0051
90.000			.0069				.0058				.0059		.0059		.0045
112.500			.0076				.0063				.0070		.0061		.0052
135.000	••••••••		.0066		.0057		.0047		.0052		.0057	.0052	.0046	.0047	.0041
157.500	.0079		.0063		.0060		.0053		.0055		.0047	.0060	.0055	.0066	.0049
180.000	.0089	.0079	.0066	.0075	.0085	.0067	.0059	.0071	.0076	.0066	.0054	.0059	.0064	.0047	.0052

X/L	.9345	.9738
PHI		
180.000	.0053	.0051

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.6931 PO = 109.13 TO = 1238.2 HO = .30804-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0074	
45.000														.0073	
67.500											.0140			.0066	
90.000									.2758		.0310			.0057	
112.500											.0608			.0016	

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (RPRT21)

RN/L (1) = .500 HAW/HT(2) = .900

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
135.000												.0078		.0072	
157.500														.0069	
180.000	.1751	.0653	.0078	.0090	.0063	.0055	.0000	.0000	.4369	.1456	.0968	.0124	.0078	.0015	.0069

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0062						.0044		
45.000			.0064				.0061				.0058		.0052		.0046
67.500			.0068				.0059				.0060		.0054		.0045
90.000			.0061				.0051				.0052		.0053		.0040
112.500			.0062				.0056				.0063		.0055		.0046
135.000	********		.0059		.0050		.0042		.0047		.0051	.0047	.0041	.0042	.0037
157.500	.0071		.0056		.0053		.0047		.0049		.0042	.0054	.0049	.0059	.0043
180.000	.0080	.0070	.0059	.0067	.0076	.0060	.0052	.0064	.0068	.0059	.0049	.0053	.0057	.0042	.0047

X/L	.9345	.9738
PHI		
90.000	.0047	.0045

LARCVDHT647 1H17 T8+X23 EXTERNAL TANK (RPRT22) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9065 PO = 479.00 TO = 1364.5 HO = .65937-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0097	
45.000														.0101	
67.500											.0192			.0084	
90.000									.3301		.0464			.0078	
112.500											.0734			.0317	
135.000												.0116		.0094	
157.500														.0080	
180.000	.2119	.1128	.0099	.0097	.0076	.0067	.0000	.0000	.5315	.1709	.0960	.0200	.0109	.0017	.0090

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0080						.0071		
45.000			.0061				.0076				.0071		.0074		.0072
67.500			.0092				.0086				.0080		.0080		.0069
90.000			.0078				.0062				.0066		.0055		.0053
112.500			.0081				.0074				.0068		.0063		.0060
135.000	********		.0073		.0063		.0060		.0060		.0061	.0059	.0064	.0067	.0058
157.500	.0095		.0073		.0065		.0063		.0065		.0065	.0069	.0064	.0068	.0060
180.000	.0100	.0087	.0075	.0083	.0093	.0077	.0072	.0085	.0090	.0066	.0062	.0073	.0068	.0067	.0060

X/L	.9345	.9738
PHI		
180.000	.0071	.0072

RN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9065 PO = 479.00 TO = 1364.5 HO = .65937-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0088	
45.000														.0091	
67.500											.0173			.0075	
90.000									.2883		.0417			.0071	
112.500											.0658			.0016	

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (RPRT22)

RN/L (1) = 2.000 HAW/H (2) = .900

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
135.000												.0104		.0085	
157.500														.0072	
180.000	.1874	.1007	.0090	.0088	.0068	.0061	.0000	.0003	.4550	.1517	.0858	.0180	.0098	.0015	.0081

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0072						.0064		
45.000			.0073				.0069				.0064		.0067		.0065
67.500			.0083				.0077				.0072		.0072		.0072
90.000			.0070				.0056				.0060		.0050		.0048
112.500			.0073				.0067				.0061		.0057		.0054
135.000	********		.0066		.0057		.0064		.0054		.0055	.0053	.0057	.0061	.0052
157.500	.0085		.0056		.0059		.0056		.0058		.0059	.0062	.0058	.0061	.0054
180.000	.0090	.0078	.0067	.0074	.0084	.0069	.0065	.0076	.0081	.0060	.0056	.0066	.0061	.0060	.0054

X/L	.9345	.9738
PHI		
180.000	.0064	.0065

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (RPRT23) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9615 PO = 737.82 TO = 1377.3 HO = .80722-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0095	
45.000														.0101	
67.500											.0230			.0092	
90.000									.3371		.0534			.0074	
112.500											.0817			.0016	
135.000												.0114		.0097	
157.500														.0095	
180.000	.2139	.1243	.0122	.0109	.0088	.0078	.0000	.0000	.5445	.1739	.0949	.0215	.0112	.0019	.0101

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0093						.0087		
45.000			.0082				.0078				.0078		.0083		.0079
67.500			.0092				.0078				.0079		.0079		.0071
90.000			.0074				.0067				.0063		.0061		.0052
112.500			.0082				.0072				.0072		.0071		.0065
135.000	********		.0075		.0076		.0067		.0067		.0070	.0075	.0075	.0075	.0064
157.500	.0091		.0077		.0070		.0069		.0069		.0074	.0081	.0062	.0079	.0058
180.000	.0114	.0090	.0082	.0096	.0102	.0085	.0068	.0091	.0095	.0073	.0065	.0090	.0069	.0077	.0066

X/L	.9345	.9738
PHI		
180.000	.0089	.0076

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9615 PO = 737.82 TO = 1377.3 HO = .80722-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0086	
45.000														.0091	
67.500											.0207			.0083	
90.000									.2923		.0479			.0066	
112.500											.0731			.0015	

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (RPRT23)

RN/L (1) = 5.000 HAW/HT(2) = .900

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
135.000												.0103		.0087	
157.500														.0086	
180.000	.1884	.1107	.0110	.0099	.0079	.0071	.0000	.0000	.4600	.1538	.0848	.0193	.0101	.0017	.0091

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0084						.0078		
45.000			.0074				.0070				.0070		.0075		.0072
67.500			.0083				.0071				.0071		.0071		.0064
90.000			.0057				.0051				.0057		.0055		.0047
112.500			.0074				.0055				.0065		.0064		.0059
135.000	********		.0068		.0069		.0061		.0061		.0063	.0067	.0067	.0067	.0057
157.500	.0092		.0069		.0063		.0062		.0062		.0066	.0073	.0056	.0071	.0052
180.000	.0103	.0081	.0074	.0087	.0092	.0076	.0061	.0082	.0085	.0066	.0059	.0081	.0062	.0070	.0060

X/L	.9345	.9738
PHI		
180.000	.0080	.0069

DATE 16 MAR 76

TABULATED SOURCE DATA, IH17, LARC VDHT 646-647

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK

(RPRT24) (16 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.
LREF =	474.8000 IN.	YMRP =	.0000 IN.
BREF =	936.7000 IN.	ZMRP =	.0000 IN.
SCALE =	.0059		

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	10.000

RN/L (1) = 10.000 HAW/HT(1) = .650 MACH = 8.1066 PO = 2547.7 TO = 1454.3 HO = .14390

SECTION (1)EXTERNAL TANK

DEPENDENT VARIABLE H/HREF

PHI \ X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
.000														.0140	
45.000														.0132	
67.500											.0331			.0156	
90.000									.3885		.0798			.0128	
112.500											.1563			.0033	
135.000												.0145		.0155	
157.500														.0157	
180.000	.2357	.2174	.0157	.0170	.0170	.0176	.0000	.0000	.6903	.1834	.1084	.0271	.0150	.0031	.0161

PHI \ X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
.000							.0225						.0197		
45.000			.0152				.0191				.0194		.0194		.0182
67.500			.0147				.0172				.0'96		.0206		.0183
90.000			.0180				.0204				.0203		.0190		.0166
112.500			.0186				.0220				.0213		.0211		.0186
135.000	********		.0199		.0201		.0204		.0206		.0200	.0194	.0192	.0192	.0160
157.500	.0124		.0185		.0199		.0206		.0211		.0201	.0217	.0195	.0192	.0185
180.000	.0175	.0170	.0160	.0193	.0196	.0204	.0192	.0223	.0228	.0215	.0202	.0219	.0215	.0195	.0202

PHI \ X/L	.9345	.9738
180.000	.0185	.0183

RN/L (1) = 10.000 HAW/HT(2) = .900 MACH = 8.1056 PO = 2547.7 TO = 1454.3 HO = .14390

SECTION (1)EXTERNAL TANK

DEPENDENT VARIABLE H/HREF

PHI \ X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
.000														.0125	
45.000														.0119	
67.500											.0298			.0141	
90.000									.3257		.0712			.0116	
112.500											.1377			.0030	

LARCVDHT647 IH17 T6+X23 EXTERNAL TANK (RPRT24)

RN/L (1) = 10.000 HAW/HT(2) = .900

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE H/HREF

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
135.000												.0131		.0140	
157.500														.0142	
180.000	.2042	.1876	.0142	.0154	.0154	.0159	.0000	.0000	.5130	.1604	.0967	.0244	.0135	.0028	.0145

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0202						.0178		
45.000			.0137				.0172				.0175		.0175		.0164
67.500			.0133				.0155				.0177		.0186		.0165
90.000			.0162				.0184				.0184		.0172		.0150
112.500			.0168				.0199				.0192		.0191		.0168
135.000	••••••••		.0179		.0182		.0184		.0186		.0181	.0175	.0173	.0173	.0145
157.500	.0112		.0167		.0180		.0186		.0191		.0181	.0195	.0176	.0173	.0167
180.000	.0158	.0154	.0144	.0174	.0177	.0184	.0173	.0201	.0206	.0194	.0182	.0198	.0194	.0177	.0182

X/L	.9345	.9738
PHI		
180.000	.0166	.0165

LARCVDHT646 IH17 O1+T8 ORBITER WING (RPRW01) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.3731 PO = 23.805 TO = 1236.7 HO = .19479-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0073	
.200		.0061	
.225	.0016		
.250	.0015		.0117
.300	.0147	.0288	.0090
.400	.0175	.0352	.0556
.500	.0156	.0297	.0494
.600	.0138	.0279	.0415
.700	.0119	.0226	
.800	.0101	.0193	
.875		.0172	
.900	.0095		

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.3731 PO = 23.805 TO = 1236.7 HO = .19479-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0065	
.200		.0054	
.225	.0015		
.250	.0014		.0105
.300	.0131	.0257	.0081
.400	.0156	.0314	.0496
.500	.0139	.0265	.0440
.600	.0123	.0249	.0370
.700	.0106	.0202	
800	.0090	.0172	
.875		.0154	
.900	.0085		

LARCVDHT646 IH17 OI+T8 ORBITER WING (RPRW02) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

PW/L (1) = .500 HAW/HT(1) = .850 MACH = 7.7041 PO = 117.18 TO = 1270.3 HO = .32105-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0064	
.200		.0041	
.225	.0061		
.250	.0040		.0115
.300	.0182	.0300	.0079
.400	.0203	.0378	.0596
.500	.0168	.0293	.0510
.600	.0144	.0271	.0444
.700	.0121	.0216	
.800	.0103	.0187	
.875		.0162	
.900	.0087		

PW/L (1) = .500 HAW/HT(2) = .900 MACH = 7.7041 PO = 117.18 TO = 1270.3 HO = .32105-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0058	
.200		.0037	
.225	.0054		
.250	.0036		.0103
.300	.0163	.0269	.0071
.400	.0192	.0338	.0533
.500	.0151	.0262	.0457
.600	.0129	.0243	.0397
.700	.0109	.0193	
.800	.0093	.0168	
.875		.0145	
.900	.0078		

LARCVDHT646 IH17 O1+T8 ORBITER WING (RPRW03) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 935.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9115 PO = 497.82 TO = 1379.4 HO = .67283-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0053	
.200		.0047	
.225	.0055		
.250	.0024		.0122
.300	.0209	.0310	.0079
.400	.0220	.0391	.0634
.500	.0211	.0301	.0546
.600	.0174	.0254	.0457
.700	.0141	.0230	
.800	.0101	.0180	
.875		.0153	
.900	.0082		

RN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9115 PO = 497.82 TO = 1379.4 HO = .67283-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0056	
.200		.0043	
.225	.0050		
.250	.0022		.0110
.300	.0188	.0280	.0072
.400	.0199	.0352	.0570
.500	.0190	.0271	.0490
.600	.0157	.0239	.0420
.700	.0128	.0208	
.800	.0091	.0163	
.875		.0138	
.900	.0074		

LARCVDHT646 IH17 O1+T8 ORBITER WING (RPRW04) (16 MAR 76)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9609 PO = 735.96 TO = 1395.9 HO = .80603-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0069	
.200		.0045	
.225	.0053		
.250	.0025		.0119
.300	.0217	.0325	.0080
.400	.0228	.0407	.0657
.500	.0219	.0307	.0565
.600	.0182	.0272	.0486
.700	.0146	.0235	
.800	.0095	.0185	
.875		.0153	
.900	.0081		

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9609 PO = 735.96 TO = 1395.9 HO = .80603-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0062	
.200		.0040	
.225	.0048		
.250	.0023		.0107
.300	.0195	.0293	.0072
.400	.0206	.0367	.0590
.500	.0197	.0276	.0507
.600	.0164	.0245	.0436
.700	.0132	.0212	
.800	.0086	.0167	
.875		.0138	
.900	.0073		

LARCVDHT646 IH17 O1+T8 ORBITER WING (RPRW05) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 HAW/HT(1) = .850 MACH = 8.1061 PO = 2535.6 TO = 1448.2 HO = .14397

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0105	
.200		.0066	
.225	.0056		
.250	.0036		.0161
.300	.0259	.0352	.0110
.400	.0284	.0468	.0752
.500	.0266	.0353	.0656
.600	.0229	.0317	.0567
.700	.0186	.0296	
.800	.0141	.0249	
.875		.0211	
.900	.0116		

RN/L (1) = 10.000 HAW/HT(2) = .900 MACH = 8.1061 PO = 2535.6 TO = 1448.2 HO = .14397

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0095	
.200		.0060	
.225	.0050		
.250	.0032		.0146
.300	.0233	.0317	.0099
.400	.0256	.0420	.0672
.500	.0240	.0318	.0587
.600	.0207	.0286	.0508
.700	.0168	.0266	
.800	.0127	.0225	
.875		.0190	
.900	.0105		

LARCVDHT646 IH17 O1+T8 ORBITER WING   (RPRW06) (16 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.
LREF =	474.8000 IN.	YMRP =	.0000 IN.
BREF =	936.7000 IN.	ZMRP =	.0000 IN.
SCALE =	.0159		

PARAMETRIC DATA

MACH =	8.000	ALPHA =	-5.000
BETA =	.000	RN/L =	.100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.3731 PO = 23.805 TO = 1230.1 HO = .19473-01

SECTION (1)ORBITER WING   DEPENDENT VARIABLE H/HREF

X/C \ 2Y/B	.4000	.6000	.8000
.175		.0068	
.200		.0052	
.225	.0016		
.250	.0011		.0101
.300	.0150	.0287	.0083
.400	.0173	.0341	.0508
.500	.0165	.0278	.0439
.600	.0128	.0239	.0382
.700	.0115	.0200	
.800	.0078	.0161	
.875		.0142	
.900	.0061		

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.3731 PO = 23.805 TO = 1230.1 HO = .19473-01

SECTION (1)ORBITER WING   DEPENDENT VARIABLE H/HREF

X/C \ 2Y/B	.4000	.6000	.8000
.175		.0060	
.200		.0046	
.225	.0015		
.250	.0010		.0090
.300	.0143	.0256	.0074
.400	.0155	.0304	.0453
.500	.0147	.0248	.0390
.600	.0114	.0213	.0341
.700	.0103	.0179	
.800	.0069	.0144	
.875		.0127	
.900	.0055		

LARCVDHT646 IH17 01+18 ORBITER WING (RPRW07) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9615 PO = 737.51 TO = 1396.0 HO = .81195-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0073	
.200		.0048	
.225	.0066		
.250	.0020		.0108
.300	.0204	.0339	.0075
.400	.0212	.0406	.0591
.500	.0201	.0309	.0501
.600	.0157	.0268	.0424
.700	.0123	.0230	
.800	.0094	.0180	
.875		.0142	
.900	.0080		

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9615 PO = 737.51 TO = 1396.0 HO = .81195-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0065	
.200		.0044	
.225	.0059		
.250	.0018		.0098
.300	.0184	.0305	.0068
.400	.0191	.0365	.0531
.500	.0181	.0278	.0450
.600	.0142	.0241	.0381
.700	.0111	.0208	
.800	.0085	.0163	
.875		.0128	
.900	.0072		

LARCVDHT645 IH17 O1+T8+X23 ORBITER WING (RPRW08) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.4044 PO = 29.775 TO = 1231.5 HO = .30653-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0072	
.200		.0039	
.225	.0027		
.250	.0014		.0123
.300	.0142	.0268	.0098
.400	.0146	.0340	.0522
.500	.0155	.0276	.0454
.600	.0150	.0256	.0412
.700	.0134	.0215	
.800	.0081	.0165	
.875		.0136	
.900	.0078		

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.4044 PO = 29.775 TO = 1231.5 HO = .30653-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.5000	.8000
X/C			
.175		.0065	
.200		.0035	
.225	.0024		
.250	.0012		.0110
.300	.0126	.0239	.0087
.400	.0130	.0303	.0465
.500	.0138	.0246	.0404
.600	.0134	.0228	.0367
.700	.0120	.0192	
.800	.0073	.0165	
.875		.0121	
.900	.0070		

LARCVDHT646 1H17 O1+T8+X23 ORBITER WING (RPRW09) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.6928 PO = 108.93 TO = 1269.4 HO = .30958-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

X/C \ 2Y/B	.4000	.6000	.8000
.175		.0079	
.200		.0048	
.225	.0051		
.250	.0046		.0102
.300	.0175	.0268	.0078
.400	.0192	.0319	.0542
.500	.0186	.0261	.0456
.600	.0151	.0232	.0366
.700	.0134	.0200	
.800	.0101	.0158	
.875		.0140	
.900	.0090		

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.6928 PO = 108.93 TO = 1269.4 HO = .30968-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

X/C \ 2Y/B	.4000	.6000	.8000
.175		.0071	
.200		.0043	
.225	.0046		
.250	.0041		.0092
.300	.0157	.0240	.0070
.400	.0172	.0284	.0484
.500	.0167	.0233	.0408
.600	.0135	.0208	.0345
.700	.0120	.0179	
.800	.0091	.0142	
.875		.0125	
.900	.0081		

LARCVDHT646 IH17 O1+T8+X23 ORBITER WING (RPRW10) (16 MAR 76)

REFERENCE DATA				PARAMETRIC DATA			
SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.	MACH =	8.000	ALPHA =	.000
LREF =	474.8000 IN.	YMRP =	.0000 IN.	BETA =	.000	RN/L =	2.000
BREF =	936.7000 IN.	ZMRP =	.0000 IN.				
SCALE =	.0059						

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9104 PO = 493.62 TO = 1339.3 HO = .66755-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0078	
.200		.0046	
.225	.0057		
.250	.0028		.0126
.300	.0165	.0385	.0086
.400	.0202	.0362	.0568
.500	.0[illegible]	.0273	.0504
.600	.0168	.0242	.0435
.700	.0149	.0218	
.800	.0[illegible]	.0160	
.875		.0156	
.900	.0090		

RN/L (2) = 2.000 HAW/HT(2) = .900 MACH = 7.9104 PO = 493.62 TO = 1339.3 HO = .66755-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0070	
.200		.0041	
.225	.0051		
.250	.0025		.0113
.300	.0167	.0256	.0077
.400	.0181	.0324	.0525
.500	.0170	.0345	.0450
.600	.0151	.0217	.0389
.700	.0134	.0195	
.800	.0096	.0162	
.875		.0140	
.900	.0081		

LARCVDHT646 IH17 O1+T8+X23 ORBITER WING (RPRW11) (16 MAR 76)

REFERENCE DATA

SREF	= 2690.0000 SQ.FT.	XMRP	= .0000 IN.		
LREF	= 474.8000 IN	YMRP	= .0000 IN.		
BREF	= 936.7000 IN	ZMRP	= .0000 IN.		
SCALE	= .0059				

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9591 PO = 723.36 TO = 1376.4 HO = .79966-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0078	
.200		.0049	
.225	.0062		
.250	.0027		.0121
.300	.0201	.0304	.0086
.400	.0220	.0378	.0616
.500	.0210	.0290	.0524
.600	.0179	.0259	.0452
.700	.0148	.0231	
.800	.0110	.0186	
.875		.0156	
.900	.0091		

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9591 PO = 723.36 TO = 1376.4 HO = .79966-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0071	
.200		.0044	
.225	.0056		
.250	.0025		.0109
.300	.0181	.0274	.0077
.400	.0198	.0340	.0552
.500	.0189	.0251	.0471
.600	.0161	.0233	.0405
.700	.0134	.0208	
.800	.0099	.0168	
.875		.0140	
.900	.0082		

LARCVDHT646 IH17 O1+T8+X23 ORBITER WING (RPRW12) (16 MAR 76)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.
LREF =	474.8000 IN.	YMRP =	.0000 IN.
BREF =	936.7000 IN.	ZMRP =	.0000 IN.
SCALE =	.0059		

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	10.000

RN/L (1) = 10.000 HAW/HT(1) = .850 MACH = 8.1063 PO = 2541.3 TO = 1430.1 HO = .14365

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0095	
.200		.0056	
.225	.0108		
.250	.0042		.0164
.300	.0248	.0307	.0114
.400	.0269	.0451	.0716
.500	.0253	.0330	.0607
.600	.0235	.0300	.0522
.700	.0197	.0273	
.800	.0146	.0233	
.875		.0204	
.900	.0114		

RN/L (1) = 10.000 HAW/HT(2) = .900 MACH = 8.1063 PO = 2541.3 TO = 1430.1 HO = .14365

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0086	
.200		.0052	
.225	.0097		
.250	.0038		.0148
.300	.0223	.0277	.0103
.400	.0243	.0407	.0544
.500	.0237	.0298	.0546
.600	.0213	.0271	.0470
.700	.0178	.0247	
.800	.0132	.0211	
.875		.0184	
.900	.0103		

LARCVDHT646 IH17 O1+X23 ORBITER WING (RPRW25) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.4713 PO = 32.700 TO = 1251.6 HO = .19145-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

X/C \ 2Y/B	.4000	.6000	.8000
.175		.0119	
.200		.0091	
.225	.0070		
.250	.0071		.0165
.300	.0220	.0318	.0096
.400	.0264	.0438	.0520
.500	.0243	.0344	.0455
.600	.0228	.0297	.0394
.700	.0185	.0264	
.800	.0156	.0216	
.875		.0199	
.900	.0133		

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.4713 PO = 32.700 TO = 1251.6 HO = .19145-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

X/C \ 2Y/B	.4000	.6000	.8000
.175		.0106	
.200		.0081	
.225	.0062		
.250	.0064		.0147
.300	.0196	.0284	.0085
.400	.0235	.0390	.0464
.500	.0217	.0307	.0406
.600	.0203	.0265	.0351
.700	.0166	.0236	
.800	.0140	.0193	
.875		.0178	
.900	.0119		

LARCVDHT646 IH17 O1+X23 ORBITER WING (RPRW26) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.6953 PO = 110.64 TO = 1280.2 HO = .31029-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0109	
.200		.0058	
.225	.0047		
.250	.0048		.0142
.300	.0254	.0352	.0102
.400	.0267	.0465	.0561
.500	.0250	.0350	.0502
.600	.0209	.0315	.0423
.700	.0162	.0280	
.800	.0126	.0226	
.875		.0189	
.900	.0105		

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.6953 PO = 110.64 TO = 1280.2 HO = .31029-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0098	
.200		.0052	
.225	.0042		
.250	.0043		.0127
.300	.0227	.0315	.0092
.400	.0239	.0416	.0502
.500	.0224	.0313	.0448
.600	.0187	.0281	.0379
.700	.0145	.0250	
.800	.0112	.0202	
.875		.0169	
.900	.0095		

LARCVDHT646 1H17 O1+X23 ORBITER WING (RPRW27) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT.	XMRP =	.0000 IN.
LREF = 474.8000 IN.	YMRP =	.0000 IN.
BREF = 936.7000 IN.	ZMRP =	.0000 IN.
SCALE = .0059		

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

PN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9095 PO = 490.20 TO = 1368.1 HO = .66564-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

X/C \ 2Y/B	.4000	.6000	.8000
.175		.0099	
.200		.0063	
.225	.0044		
.250	.0034		.0148
.300	.0246	.0356	.0096
.400	.0266	.0493	.0582
.500	.0249	.0359	.0509
.600	.0214	.0309	.0431
.700	.0181	.0272	
.800	.0133	.0212	
.875		.0181	
.900	.0108		

PN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9095 PO = 490.20 TO = 1368.1 HO = .66564-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

X/C \ 2Y/B	.4000	.6000	.8000
.175		.0089	
.200		.0056	
.225	.0040		
.250	.0031		.0134
.300	.0222	.0321	.0087
.400	.0240	.0443	.0523
.500	.0225	.0323	.0457
.600	.0193	.0278	.0387
.700	.0163	.0245	
.800	.0119	.0191	
.875		.0163	
.900	.0098		

LARCVDHT646 1H17 O1+X23 ORBITER WING (RPRW28) (16 MAR 76)

REFERENCE DATA

SPEF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9584 PO = 719.47 TO = 1388.6 HO = .80567-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0103	
.200		.0065	
.225	.0045		
.250	.0036		.0156
.300	.0260	.0371	.0106
.400	.0277	.0510	.0605
.500	.0262	.0370	.0526
.600	.0221	.0321	.0446
.700	.0194	.0288	
.800	.0138	.0229	
.875		.0190	
.900	.0116		

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9584 PO = 719.47 TO = 1388.6 HO = .80567-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0093	
.200		.0059	
.225	.0040		
.250	.0033		.0141
.300	.0235	.0334	.0096
.400	.0250	.0459	.0544
.500	.0237	.0333	.0473
.600	.0199	.0289	.0401
.700	.0166	.0259	
.800	.0125	.0207	
.875		.0171	
.900	.0105		

LARCVDHT646 IH17 O1+X23 ORBITER WING (RPRW29) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 HAW/HT(1) = .850 MACH = 8.1054 PO = 2520.7 TO = 1454.3 HO = .14363

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0146	
.200		.0086	
.225	.0085		
.250	.0074		.0250
.300	.0285	.0481	.0159
.400	.0303	.0683	.0710
.500	.0291	.0518	.0619
.600	.0261	.0488	.0512
.700	.0231	.0462	
.800	.0187	.0398	
.875		.0331	
.900	.0165		

RN/L (1) = 10.000 HAW/HT(2) = .900 MACH = 8.1054 PO = 2520.7 TO = 1454.3 HO = .14363

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0132	
.200		.0078	
.225	.0077		
.250	.0067		.0225
.300	.0257	.0433	.0143
.400	.0274	.0613	.0638
.500	.0263	.0466	.0557
.600	.0235	.0439	.0461
.700	.0209	.0416	
.800	.0169	.0358	
.875		.0299	
.900	.0149		

LARCVDHT646 IH17 01 ORBITER WING (RPRW30) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.4647 PO = 31.700 TO = 1221.4 HO = .18849-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0460	
.200		.0377	
.225	.0544		
.250	.0507		.0413
.300	.0508	.0612	.0339
.400	.0596	.0839	.0958
.500	.0568	.0660	.0893
.600	.0545	.0637	.0790
.700	.0518	.0574	
.800	.0455	.0506	
.875		.0471	
.900	.0357		

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.4647 PO = 31.700 TO = 1221.4 HO = .18849-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0409	
.200		.0335	
.225	.0484		
.250	.0452		.0367
.300	.0452	.0544	.0302
.400	.0530	.0746	.0852
.500	.0505	.0587	.0786
.600	.0485	.0567	.0703
.700	.0461	.0510	
.800	.0406	.0450	
.875		.0420	
.900	.0318		

LARCVDHT646 IH17 01 ORBITER WING (RPRW31) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9611 PO = 735.33 TO = 1391.4 HO = .80672-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0034	
.200		.0018	
.225	.0106		
.250	.0072		.0093
.300	.0118	.0297	.0068
.400	.0118	.0401	.0482
.500	.0107	.0286	.0424
.600	.0084	.0246	.0348
.700	.0065	.0210	
.800	.0046	.0163	
.875		.0126	
.900	.0039		

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9611 PO = 735.33 TO = 1391.4 HO = .80672-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0031	
.200		.0017	
.225	.0095		
.250	.0065		.0094
.300	.0107	.0268	.0061
.400	.0106	.0361	.0434
.500	.0097	.0259	.0382
.600	.0076	.0222	.0314
.700	.0059	.0189	
.800	.0042	.0147	
.875		.0113	
.900	.0035		

LARCVDHT646 IH17 01 ORBITER WING (RPRW32) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 HAW/HT(1) = .850 MACH = 7.4713 PO = 32.700 TO = 1211.4 HO = .19041-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0095	
.200		.0077	
.225	.0078		
.250	.0045		.0187
.300	.0288	.0374	.0102
.400	.0310	.0502	.0568
.500	0302	.0383	.0498
.600	.0261	.0355	.0437
.700	.0165	.0301	
.800	.0160	.0235	
.875		.0233	
.900	.0158		

RN/L (1) = .100 HAW/HT(2) = .900 MACH = 7.4713 PO = 32.700 TO = 1211.4 HO = .19041-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0085	
.200		.0068	
.225	.0070		
.250	.0040		.0166
.300	.0256	.0333	.0091
.400	.0276	.0446	.0505
.500	.0268	.0341	.0443
.600	.0232	.0316	.0388
.700	.0147	.0268	
.800	.0142	.0209	
.875		.0207	
.900	.0141		

LARCVDHT646 IH17 01 ORBITER WING (RPRW33) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 HAW/HT(1) = .850 MACH = 7.6961 PO = 111.17 TO = 1233.0 HO = .31093-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X C			
.175		.0112	
.200		.0073	
.225	.0063		
.250	.0033		.0147
.300	.0251	.0319	.0108
.400	.0268	.0447	.0531
.500	.0260	.0330	.0461
.600	.0217	.0303	.0390
.700	.0181	.0267	
.800	.0144	.0226	
.875		.0175	
.900	.0123		

RN/L (1) = .500 HAW/HT(2) = .900 MACH = 7.6961 PO = 111.17 TO = 1233.0 HO = .31093-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0100	
.200		.0065	
.225	.0056		
.250	.0030		.0132
.300	.0224	.0285	.0097
.400	.0239	.0398	.0473
.500	.0232	.0294	.0411
.600	.0194	.0270	.0348
.700	.0161	.0238	
.800	.0128	.0201	
.875		.0155	
.900	.0110		

LARCVDHT646 1H17 01 ORBITER WING (RPRW34) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 HAW/HT(1) = .850 MACH = 7.9098 PO = 491.13 TO = 1348.7 HO = .64181-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0106	
.200		.0068	
.225	.0048		
.250	.0041		.0158
.300	.0287	.0381	.0105
.400	.0304	.0525	.0615
.500	.0286	.0386	.0541
.600	.0238	.0345	.0473
.700	.0165	.0306	
.800	.0133	.0246	
.875		.0205	
.900	.0110		

RN/L (1) = 2.000 HAW/HT(2) = .900 MACH = 7.9098 PO = 491.13 TO = 1348.7 HO = .64181-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0095	
.200		.0061	
.225	.0043		
.250	.0037		.0142
.300	.0258	.0343	.0095
.400	.0274	.0472	.0553
.500	.0257	.0348	.0496
.600	.0215	.0311	.0425
.700	.0167	.0275	
.800	.0120	.0221	
.875		.0185	
.900	.0099		

LARCVDHT646 IH17 01 ORBITER WING (RPRW35) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 HAW/HT(1) = .850 MACH = 7.9622 PO = 741.56 TO = 1377.1 HO = .80824-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0087	
.200		.0058	
.225	.0042		
.250	.0033		.0165
.300	.0284	.0380	.0104
.400	.0302	.0509	.0595
.500	.0282	.0390	.0526
.600	.0243	.0339	.0461
.700	.0189	.0301	
.800	.0132	.0249	
.875		.0208	
.900	.0107		

RN/L (1) = 5.000 HAW/HT(2) = .900 MACH = 7.9622 PO = 741.56 TO = 1377.1 HO = .80824-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

2Y/B	.4000	.6000	.8000
X/C			
.175		.0078	
.200		.0052	
.225	.0038		
.250	.0030		.0149
.300	.0256	.0343	.0093
.400	.0272	.0458	.0535
.500	.0254	.0342	.0473
.600	.0219	.0305	.0414
.700	.0171	.0272	
.800	.0119	.0224	
.875		.0188	
.900	.0096		

LARCVDHT646 IH17 01 ORBITER WING (RPRW36) (16 MAR 76)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 HAW HT(1) = .850 MACH = 8.1059 PO = 2532.5 TO = 1460.6 HO = .14385

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

X/C \ 2Y/B	.4000	.6000	.8000
.175		.0136	
.200		.0082	
.225	.0045		
.250	.0036		.0233
.300	.0311	.0452	.0149
.400	.0331	.0617	.0779
.500	.0317	.0479	.0696
.600	.0282	.0470	.0613
.700	.0242	.0443	
.800	.0169	.0368	
.875		.0317	
.900	.0160		

RN/L (1) = 10.000 HAW/HT(2) = .900 MACH = 8.1059 PO = 2532.5 TO = 1460.6 HO = .14385

SECTION (1)ORBITER WING DEPENDENT VARIABLE H/HREF

X/C \ 2Y/B	.4000	.6000	.8000
.175		.0123	
.200		.0074	
.225	.0040		
.250	.0032		.0210
.300	.0281	.0408	.0135
.400	.0299	.0555	.0700
.500	.0286	.0432	.0615
.600	.0254	.0424	.0551
.700	.0219	.0399	
.800	.0171	.0350	
.875		.0266	
.900	.0144		

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (QPRB01) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT.	XMRP = .0000 IN.		
LREF = 474.8000 IN.	YMRP = .0000 IN.		
BREF = 936.7000 IN.	ZMRP = .0000 IN.		
SCALE = .0059			

PARAMETRIC DATA

MACH = 8.000	ALPHA = .000
BETA = .000	RN/L = .100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.3731 PO = 23.805 TO = 1236.7 HO = .19479-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y BP	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.6595	
.150	.9405	
.175	1.[illegible]309	
.200	[illegible]	
.250	.8755	
.300	.8130	
.350		.0209
.375		.0182
.400	.2609	.1725
.500	.1519	.1611
.600	.6050	2.0920
.700	.0942	.2127
.800	[illegible]	[illegible]
.900	[illegible]	[illegible]335
1.000	[illegible]	[illegible]
[illegible]5	[illegible]	

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (QPRB02) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 ALPHA (1) = .000 MACH = 7.7041 PO = 117.18 TO = 1270.3 HO = .32105-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	1.4162	
.150	2.0050	
.175	2.4788	
.200	1.6541	
.250	1.8538	
.300	.1176	
.350		.3101
.375		.0886
.400	.4218	.2937
.500	.2719	.2721
.600	.1850	3.3810
.700	.1345	.3103
.800	.2596	.0348
.900	.2928	.2576
1.000	.2931	.2032
1.025	.3802	

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (QPRB03) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .000 MACH = 7.9115 PO = 497.82 TO = 1379.4 HO = .67283-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	4.1904	
.150	5.7992	
.175	4.8845	
.200	4.9089	
.250	5.4849	
.300	********	
.350		.6066
.375		.1032
.400	.9313	.8516
.500	.5350	.8037
.600	.0154	8.8156
.700	.3046	.8122
.800	.7488	********
.900	1.0263	.5038
1.000	.1852	.3401
1.025	.8012	

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (QPRB04) (15 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9609 PO = 73[illegible].96 TO = 1395.9 HO = .80603-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE CDOT

Y(BP) .0000 70.0000

X/L		
.088	.0000	
.100	.0000	
.125	5.6579	
.150	5.2540	
.175	6.2314	
.200	6.5922	
.250	7.2709	
.300	********	
.350		.7151
.375		.1332
.400	1.1800	1.1449
.500	.6385	1.0906
.600	********	11.4516
.700	.4217	1.0046
.800	1.0232	********
.900	1.3449	.5930
1.000	.2272	.4335
1.025	.9975	

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (QPRB05) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 ALPHA (1) = .000 MACH = 8.1061 PO = 2535.6 TO = 1448.2 HO = .14397

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	6.4922	
.150	7.1552	
.175	9.0213	
.200	7.5556	
.250	8.0242	
.300	********	
.350		1.1850
.375		.1778
.400	2.3431	2.2451
.500	1.2400	2.1040
.600	********	21.4697
.700	.9205	2.0582
.800	2.4985	********
.900	2.6103	1.2095
1.000	.3995	.8247
1.025	1.7524	

LARCVDHT646 IH17 OI+TB ORBITER FUSELAGE (QPRB06) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.3731 PO = 23.805 TO = 1230.1 HO = .19473-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
088	.0000	
.100	.0000	
.125	.8207	
.150	1.1696	
.175	1.4053	
.200	.9554	
.250	1.0810	
.300	.2930	
.350		.0865
.375		.0051
.400	.2661	.1862
.500	.1777	.1967
.600	********	2.1282
.700	.1133	.2263
.800	.2151	1.2911
.900	.2489	.1561
1.000	.0477	.0920
1.025	.2314	

LARCVDHT646 IH17 O1+T8 ORBITER FUSELAGE (QPRB07) (16 SEP 75)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	-5.000
BETA	=	.000	RN/L	=	5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9615 PO = 737.51 TO = 1396.0 HO = .81195-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	4.7624	
.150	5.6255	
.175	6.5447	
.200	5.3923	
.250	5.6466	
.300	********	
.350		.7915
.375		.1063
.400	1.2449	1.3708
.500	.6434	1.2941
.600	********	13.4539
.700	.8114	1.1040
.800	1.6693	********
.900	1.5617	.5956
1.000	.2429	.4991
1.025	1.1217	

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE (QPRB08) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.4044 PO = 29.775 TO = 1231.5 HO = .30653-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.7715	
.150	.9669	
.175	1.6948	
.200	.9336	
.250	1.2710	
.300	.1009	
.350		.0691
.375		-.0006
.400	.1910	.1539
.500	.1205	.1554
.600	********	1.8359
.700	.0987	.2199
.800	.1534	.7148
.900	.1790	.1325
1.000	.0527	.0567
1.025	.2159	

DATE 16 MAR 76

TABULATED SOURCE DATA, IH17, LARC VDHT 646-647

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE

(QPRB09) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 ALPHA (1) = .000 MACH = 7.6928 PO = 108.93 TO = 1269.4 HO = .30968-01

SECTION (1)ORBITER FUSELAGE

DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	1.6988	
.150	2.3455	
.175	2.7524	
.200	2.0786	
.250	2.2277	
.300	.1683	
.350		.2711
.375		.0852
.400	.2937	.2133
.500	.2233	.2092
.600	********	2.5323
.700	.1301	.2894
.800	.2844	.7195
.900	.2838	.2289
1.000	.0763	.1833
1.025	.3266	

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE (QPRB10) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN YMRP = .0000 IN.
BREF = 936.7000 IN ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .000 MACH = 7.9104 PO = 493.62 TO = 1339.3 HO = .66755-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	5.0987	
.150	4.3434	
.175	4.9924	
.200	5.6582	
.250	5.9654	
.300	********	
.350		.5679
.375		.1168
.400	1.4008	.7154
.500	.8920	.6991
.600	********	7.8329
.700	.4930	.7364
.800	.8437	********
.900	.8764	.5219
1.000	.2013	.3736
1.025	.7825	

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE (QPRB11) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9591 PO = 723.36 TO = 1376.4 HO = .79966-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	4.7501	
.150	5.5265	
.175	6.3815	
.200	5.4047	
.250	5.5714	
.300	********	
.350		.6758
.375		.1386
.400	2.1164	1.0967
.500	1.3945	1.0796
.600	********	11.7796
.700	.7250	1.0371
.800	1.3078	********
.900	1.3410	.6772
1.000	.2953	.5187
1.025	1.1154	

LARCVDHT646 IH17 O1+T8+X23 ORBITER FUSELAGE (QPRB12) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 ALPHA (1) = .000 MACH = 8.1063 PO = 2541.3 TO = 1430.1 HO = .14365

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	8.3901	
.150	9.4591	
.175	11.0337	
.200	9.9052	
.250	10.4060	
.300	*********	
.350		1.7467
.375		.2770
.400	4.6579	2.9918
.500	4.0920	2.9820
.600	*********	33.9754
.700	2.5332	2.8597
.800	5.1870	*********
.900	3.6656	1.9117
1.000	.7414	1.5259
1.025	2.6308	

LARCVDHT646 IH17 O1+X23 ORBITER FUSELAGE (QPRB25) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .850 MACH = 7.4713 PO = 32.700 TO = 1251.6 HO = .19145-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.7040	
.150	1.0415	
.175	1.2672	
.200	.8903	
.250	1.0203	
.300	-.0239	
.350		.0652
.375		.0430
.400	.2095	.1226
.500	.1401	.1222
.600	********	1.3377
.700	.0717	.1300
.800	.1090	********
.900	.1050	.0954
1.000	.0256	.0826
1.025	.0731	

DATE 16 MAR 76 TABULATED SOURCE DATA, IH17, LARC VDHT 646-647 PAGE 158

LARCVDHT646 IH17 O1+X23 ORBITER FUSELAGE (QPRB26) 16 SEP 75)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	.500

RN/L (1) = .500 ALPHA (1) = .850 MACH = 7.6953 PO = 110.64 TO = 1280.2 HO = .31029-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	1.1922	
.150	1.6648	
.175	2.0761	
.200	1.5145	
.250	1.8605	
.300	.4215	
.350		.0766
.375		.0440
.400	.3668	.1679
.500	.2616	.1683
.600	********	1.9200
.700	.1331	.1956
.800	.514	1.1796
.900	.1395	.374
1.000	.0350	.1081
1.025	.1052	

LARCVDHT646 IH17 O1+X23 ORBITER FUSELAGE (QPRB27) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .850 MACH = 7.9095 PO = 490.20 TO = 1368.1 HO = .66564-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	6.3557	
.150	5.2130	
.175	5.9432	
.200	7.7156	
.250	7.9579	
.300	*********	
.350		.1983
.375		.1054
.400	1.5536	.4807
.500	1.0210	.4645
.600	*********	4.9676
.700	.5503	.4629
.800	.5816	*********
.900	.4971	.3069
1.000	.0733	.2420
1.025	.3376	

LARCVDHT646 IH17 O1+X23 ORBITER FUSELAGE (QPR828) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .850 MACH = 7.9584 PO = 719.47 TO = 1388.6 HO = .80567-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	8.7784	
.150	7.7757	
.175	8.6414	
.200	10.0224	
.250	3555	
.300	********	
.350		.3327
.375		.1871
.400	2.2547	.6497
.500	1.4927	.6256
.600	********	5.7603
.700	.7888	6055
.800	.8604********	
.900	.7652	.3960
1.000	..369	.3009
1.025	.5497	

LARCVDHT646 IH17 O1+X23 ORBITER FUSELAGE (QPRB29) (15 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 ALPHA (1) = .850 MACH = 8.1054 PO = 2520.7 TO = 1454.3 HC = .14363

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	10.2444	
.150	11.0060	
.175	12.2827	
.200	11.1730	
.250	11.3624	
.300	********	
.350		1.5601
.375		.9511
.400	5.9436	1.5448
.500	3.4762	1.4357
.600	********	15.8530
.700	1.7724	1.7166
.800	2.0753	********
.900	2.0487	1.3703
1.000	.5193	1.0479
1.025	2.0924	

LARCVDHT646 IH17 O1 ORBITER FUSELAGE (QPRB30) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .850 MACH = 7.4647 PO = 31.700 TO = 1221.4 HO = .18849-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	2.9967	
.150	3.8133	
.175	4.1484	
.200	3.5545	
.250	3.7203	
.300	********	
.350		.5684
.375		.4493
.400	.5578	.4365
.500	.4246	.4325
.600	********	5.0310
.700	.2735	.5781
.800	.3978	********
.900	.4536	.5733
1.000	.1339	.5444
1.025	.5891	

LARCVDHT646 IH17 O1 ORBITER FUSELAGE (QPRB31) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .850 MACH = 7.9611 PO = 735.33 TO = 1391.4 HO = .80672-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	9.1534	
.150	8.0910	
.175	9.3125	
.200	7.4099	
.250	7.8859	
.300	********	
.350		.2995
.375		.1725
.400	1.0225	.2368
.500	.6172	.2399
.600	********	2.8772
.700	.3211	.3600
.800	.3592	********
.900	.3054	.5752
1.000	.0653	.5600
1.025	.3815	

LARCVDHT646 IH17 01 ORBITER FUSELAGE (QPRB32) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .850 MACH = 7.4713 PO = 32.700 TO = 1211.4 HO = .19041-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	.8488	
.150	1.3713	
.175	1.7010	
.200	1.0195	
.250	1.2133	
.300	********	
.350		.0394
.375		.0441
.400	.2832	.1125
.500	.1914	.1219
.600	********	1.0044
.700	.1144	.1183
.800	.1222	********
.900	.1120	.0951
1.000	.0082	.0478
1.025	.0700	

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

LARCVDHT6-6 1H17 O1 ORBITER FUSELAGE (QPRB33) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 ALPHA (1) = .850 MACH = 7.6961 PO = 111.17 TO = 1233.0 HO = .31093-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	1.6268	
.150	2.4722	
.175	2.2647	
.200	2.0038	
.250	1.7815	
.300	********	
.350		.0926
.375		.0551
.400	.3964	.1901
.500	.2747	.1859
.600	********	1.7654
.700	.1427	.1655
.800	.1735	********
.900	.1642	.1447
1.000	.0438	.1195
1.025	.1197	

LARCVDHT646 1H17 01 ORBITER FUSELAGE (QPRB34) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .850 MACH = 7.9098 PO = 491.13 TO = 1348.7 HO = .64181-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y BP)	.0000	70.0000
X/L		
.088	.0000	
.100	.0000	
.125	5.1284	
.150	5.1598	
.175	6.0081	
.200	6.2261	
.250	5.0164	
.300	********	
.350		.1408
.375		.0912
.400	1.0304	.4310
.500	.6475	.4531
.600	********	4.9559
.700	.3788	.4472
.800	.4160	********
.900	.3737	.2857
1.000	.0660	.2536
1.025	.2185	

LARCVDHT646 IH17 01 ORBITER FUSELAGE (QPRB35) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .850 MACH = 7.9622 PO = 741.56 TO = 1377.1 HO = .80824-01

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y(BP) .0000 TO .0000

X/L		
.088	.0000	
.100	.0000	
.125	6.8596	
.150	6.3721	
.175	7.4354	
.200	8.2180	
.250	6.2334	
.300	********	
.350		.1697
.375		.1281
.400	1.3609	.5500
.500	.7733	.5200
.600	********	5.6872
.700	.4320	.5112
.800	.4827	********
.900	.4432	.3670
1.000	.0595	.2874
1.025	.2784	

LARCVDHT646 IH17 O1 ORBITER FUSELAGE (QPRB36) (16 SEP 75)

REFERENCE DATA

SREF	= 2690.0000 SQ.FT.	XMRP	=	.0000	IN.
LREF	= 474.8000 IN.	YMRP	=	.0000	IN.
BREF	= 936.7000 IN.	ZMRP	=	.0000	IN.
SCALE	= .0059				

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	10.000

RN/L (1) = 10.000 ALPHA (1) = .850 MACH = 8.1059 PC = 2532.5 TO = 1460.6 HO = .14385

SECTION (1)ORBITER FUSELAGE DEPENDENT VARIABLE QDOT

Y/BP, .0000 TO .0000

X/L		
.068	.0000	
.100	.0000	
.125	9.8554	
.150	11.8901	
.175	13.6565	
.200	11.1421	
.250	11.7031	
.300	*********	
.350		.4388
.375		.3101
.400	2.9081	1.2759
.500	1.7115	1.2291
.600	*********	13.5073
.700	.9320	1.2382
.800	1.0239	*********
.900	.9162	.7596
1.000	.1755	.5678
1.025	.7382	

LARCVDHT646 IH17 O1+T8 ORBITER CANOPY (QPRC01) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.3731 PO = 23.805 TO = 1236.7 HO = .19479-01

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.2188			
2.000	.2136			
3.000	.2045			
4.000				.0364
5.000			-.0028	
6.000		.0092		

LARCVDHT646 IH17 OI+TB ORBITER CANOPY (QPRC02) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.800 IN. YMRP = .0000 IN.
BREF = 936.700 IN. ZMRP = .0000 IN.
SCALE = .0050

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 ALPHA (1) = .000 MACH = 7.7041 PO = 117.18 TO = 1270.3 HO = .32105-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1950	.2130
T.C NO				
1.000	.3621			
2.000	.3787			
3.000	.3818			
4.000				.0735
5.000			.0739	
6.000		.1038		

DATE 16 MAR 76 TABULATED SOURCE DATA, 1H17, LARC VDHT 646-647

LARCVDHT646 1H17 O1+T8 ORBITER CANOPY (QPRC03) (16 SEP 75)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	2.000

RN/L (1) = 2.000 ALPHA (1) = .000 MACH = 7.9115 PO = 497.82 TO = 1379.4 HO = .67283-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE CDOT

Y	0470	.1780	.1960	.2130
T/C NO				
1.000	7590			
2.000	8492			
3.000	7844			
4.000				.1737
5.000			.1885	
6.000		.1258		

LARC,DHT646 IH17 01+T8 ORBITER CANOPY (QPRC04) (15 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L = 5.000 ALPHA = .000 MACH = 7.9609 PO = 735.96 TO = 1395.9 HO = .80603-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T.C NO				
1.000	.9427			
2.000	1.0683			
3.000	.9573			
4.000				.2175
5.000			.2629	
6.000		.1615		

LARC VDHT646 IH17 O1+T8 ORBITER CANOPY (QPRC05) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 ALPHA (1) = .000 MACH = 8.1061 PO = 2535.6 TO = 1448.2 HO = .14397

SECTION (1) ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

TC NO	Y .0470	.1780	.1960	.2130
1.000	1.9110			
2.000	1.9730			
3.000	1.6455			
4.000				.3546
5.000			.3858	
6.000		.2030		

LARCVDHT646 IH17 O1+T8 ORBITER CANOPY (QPRC06) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.3731 PO = 23.805 TO = 1230.1 HO = .19473-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.2293			
2.000	.2565			
3 000	.2563			
4.000				.0460
5.000			-.0040	
6.000		.0055		

LARCVDHT646 IH17 O1+T8 ORBITER CANOPY (QPRC07) (16 SEP 75)

REFERENCE DATA

SREF	= 2690.0000 SQ.FT.	XMRP	= .0000 IN.		
LREF	= 474.8000 IN.	YMRP	= .0000 IN.		
BREF	= 936.7000 IN.	ZMRP	= .0000 IN.		
SCALE	= .0059				

PARAMETRIC DATA

MACH	= 8.000	ALPHA	= -5.000
BETA	= .000	RN/L	= 5.000

PHI (1) = 5.000 ALPHA (1) = .000 MACH = 7.9615 PO = 737.51 TO = 1396.0 HO = .81195-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	1.0199			
2.000	1.1554			
3.000	1.0577			
4.000				.2125
5.000			.3240	
6.000		.0961		

LARCVDHT646 IH17 O1+T8+X23 ORBITER CANOPY (QPRC08) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.4044 PO = 29.775 TO = 1231.5 HO = .30653-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.1691			
2.000	.2116			
3.000	.2292			
4.000				.0414
5.000			-.0083	
6.000		.0052		

LARCVDHT646 IH17 O1+T8+X23 ORBITER CANOPY (QPRC09) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 ALPHA (1) = .000 MACH = 7.6928 PO = 108.93 TO = 1269.4 HO = .30968-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.2457			
2.000	.2856			
3.000	.3390			
4.000				.0666
5.000			.0734	
6.000		.1095		

LARCVDHT646 IH17 O1+T8+X23 ORBITER CANOPY (QPRC10) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .000 MACH = 7.9104 PO = 493.62 TO = 1339.3 HO = .66755-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

T/C NO	.0470	.1780	.1960	.2130
1.000	1.2179			
2.000	.8116			
3.000	.8220			
4.000				.1741
5.000			.1359	
6.000		.1196		

LARCVDHT646 IH17 O1+T8+X23 ORBITER CANOPY (QPRC11) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0039

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9591 PO = 723.36 TO = 1376.4 HO = .79966-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	1.8574			
2.000	1.2725			
3.000	1.2221			
4.000				2267
5.000			.1909	
6.000		.1580		

LARCVDHT645 IH17 O1+T8+X23 ORBITER CANOPY (QPRC12) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 ALPHA (1) = .000 MACH = 8.1063 PO = 2541.3 TO = 1430.1 HO = .14365

SECTION (1 ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	4.0004			
2.000	2.9540			
3.000	2.9534			
4.000				.5571
5.000			.4769	
6.000		.3299		

DATE 16 MAR 76 TABULATED SOURCE DATA, IH17, LARC VDHT 646-647

LARCVDHT646 IH17 O1+X23 ORBITER CANOPY (QPRC25) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .850 MACH = 7.4713 PO = 32.700 TO = 1251.6 HO = .19145-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.1885			
2.000	.0927			
3.000	0835			
4.000				.0152
5.000			.0250	
6.000		.0523		

LARCVDHT646 IH17 O1+X23 ORBITER CANOPY (QPRC26) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 ALPHA (1) = .850 MACH = 7.6953 PO = 110.64 TO = 1280.2 HO = .31029-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.3234			
2.000	.1471			
3.000	.1257			
4.000				.0198
5.000			.0403	
6.000		.0382		

LARCVDHT646 IH17 O1+X23 ORBITER CANOPY (QPRC27) (16 SEP 75)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.		
LREF =	474.8000 IN.	YMRP =	.0000 IN.		
BREF =	936.7000 IN.	ZMRP =	.0000 IN.		
SCALE =	.0059				

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	2.000

RN/L (1) = 2.000 ALP (1) = .850 MACH = 7.9095 PO = 490.20 TO = 1368.1 HO = .66564-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	1.3613			
2.000	.4856			
3.000	.4159			
4.000				.0600
5.000			.1234	
6.000		.1366		

LARCVDHT646 IH17 O1+X23 ORBITER CANOPY (QPRC28) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .850 MACH = 7.9584 PO = 719.47 TO = 1388.6 HO = .80567-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	1.9855			
2.000	.7507			
3.000	.7219			
4.000				.0970
5.000			.1909	
6.000		.2088		

LARCVDHT646 IH17 O1+X23 ORBITER CANOPY (QPRC29) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 ALPHA (1) = .850 MACH = 8.1054 PO = 2520.7 TO = 1454.3 HO = 14363

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	4.9509			
2.000	2.2466			
3.000	2.3514			
4.000				.4068
5.000			.9360	
6.000		1.0870		

LARCVDHT646 IH17 01 ORBITER CANOPY (QPRC30) (18 SEP 75)

REFERENCE DATA

SREF = 2590.0000 SQ FT XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .850 MACH = 7.4647 PO = 31.700 TO = 1221.4 HO = 1884?-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1760	.1960	.2130
T/C NO				
1.000	.4952			
2.000	.5072			
3.000	.5971			
4.000				.1225
5.000			.4073	
6.000		.4698		

LARCVDHT646 IH17 01 ORBITER CANOPY (QPRC31) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .850 MACH = 7.9611 PO = 735.33 TO = 1391.4 HO = .80672-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.8599			
2.000	.2983			
3.000	.3507			
4.000				.0829
5.000			.1930	
6.000		.2200		

LARCVOHT646 IH17 OI ORBITER CANOPY (QPRC32) (16 SEP 75)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	.100

RN/L (1) = .100 ALPHA (1) = .850 MACH = 7.4713 PO = 32.700 TO = 1211.4 HO = .19041-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1760	.1960	.2130
T/C NO				
1.000	.2426			
2.000	.1013			
3.000	.0819			
4.000				.0244
5.000			.0365	
6.000		.0339		

LARCVDHT646 1H17 01 ORBITER CANOPY (QPRC33) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 ALPHA (1) = .850 MACH = 7.6961 PO = 111.17 TO = 1233.0 HO = .31093-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	.3257			
2.000	.1241			
3.000	.1356			
4.000				.0231
5.000			.0616	
6.000		.0344		

LARCVDHT646 IH17 O1 ORBITER CANOPY (QPRC34) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .850 MACH = 7.9098 PO = 491.13 TO = 1348.7 HO = .64181-01

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1760	.1960	.2130
T/C NO				
1.000	.8597			
2.000	.3431			
3.000	.2645			
4.000				.0338
5.000			.0972	
6.000		.1051		

DATE 15 MAR 76

TABULATED SOURCE DATA, IH17, LARC VDHT 646-647

LARCVDHT646 IH17 01 ORBITER CANOPY

(QPRC35) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT.   XMRP = .0000 IN.
LREF = 474.8000 IN.   YMRP = .0000 IN.
BREF = 936.7000 IN.   ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000   ALPHA = .000
BETA = .000   RN/L = 5.000

RN/L (1) = 5.000   ALPHA (1) = .850   MACH = 7.9622   PO = 741.56   TO = 1377.1   HO = .80824-01

SECTION (1)ORBITER WINDSHIELD   DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	1.1229			
2.000	.3939			
3.000	.3227			
4.000				.0368
5.000			.1089	
6.000		.1098		

LARCVDHT646 IH17 OI ORBITER CANOPY (QPRC36) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 ALPHA (1) = .850 MACH = 8.1059 PO = 2532.5 TO = 1460.6 HO = .14385

SECTION (1)ORBITER WINDSHIELD DEPENDENT VARIABLE QDOT

Y	.0470	.1780	.1960	.2130
T/C NO				
1.000	2.3941			
2.000	.8590			
3.000	.8041			
4.000				.1213
5.000			.2539	
6.000		.3421		

LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK (QPRT01) (16 SEP 75)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	.100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.3731 PO = 23.805 TO = 1236.7 HO = .19479-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.1580
90.000												2.7096	.4232	.1204	.3127
112.500														.2493	.8744
180.000	..9510	.3263	.6406	.1092	.1041	.6584	.5516	.0000	.2901	.0000	2.9771	3.9151	1.5504		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.1158								.0506			
45.000				.0677				.0860				.0609			
67.500		.0898		.0918				.1015				.1605		.0721	
90.000	.0724	.1048		.2914		.1027		.2573		.0808		.2596		.0742	
112.500	.1125	.0398		.0472		.1082		.3866		.0806		.2713		.0608	
135.000	.1081	.1151	.0981	.0958		.0220		.3079		.2533		.2660		.2610	
157.500				.1295		.0809		.4002		.2723		.2554		.2568	
180.000		.0413	.0912	.0251	.0926	.1118	.5209	.1931	.0862	.0649	.3218	.2821	.0477	.0841	.2313

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0775				
45.000	.0987		.1024		.0850		
67.500	.1577	.0808	.1320		.1039		
90.000	.1984	.0532	.1602	.0542	.0742		
112.500	.1862	.0481	.1613	.0582	.0493		
135.000	.2202	.1895	.1716	.0745	.0272		
157.500	.22.3	.0520	.1918	.0599	.1387		
180.000	2363	.0874	.1650	.0655	.1089	.0602********	

LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK (QPRT02) (16 SEP 75)

REFERENCE DATA

SREF	= 2690.0000 SQ.FT.	XMRP	=	.0000 IN.	
LREF	= 474.8000 IN.	YMRP	=	.0000 IN.	
BREF	= 936.7000 IN.	ZMRP	=	.0000 IN.	
SCALE	= .0059				

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	500

RN/L (1) = 500 ALPHA (1) = .000 MACH = 7.7041 PO = 117.18 TO = 1270.3 HO = .32105-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															.2704
67.500												4.6361	.7450	.1945	.5343
90.000														.4230	1.5441
112.500															********
180.000	3.2623	.6112	1.1143	.1256	.1716	1.1665	.9522	.0000	.5308	.0000	5.1633	6.4718	2.7400		

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.1491								.0911			
45.000				.0891				.1021				.2392			
67.500		.1617		.1390				.2075				.2437		.1703	
90.000	.0927	.1496		.5104		.1388		.5449		.1184		.4438		.0975	
112.500	.1676	.1433		.0665		.1477		.7122		.1256		.4612		.1021	
135.000	.1663	.1362	.1554	.1356		-.0194		.5634		.4116		.4460		.4312	
157.500				.1210		.1453		.6751		.4713		.4371		.4409	
180.000		********	.1487	.0148	.1178	.1247	.9525	.3485	.0755	.0895	.5237	.5213	.0581	.1035	.3941

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.2619				
45.000	.2026		.1596		.1585		
67.500	.2520	.2024	.2512		.2303		
90.000	.3281	.0654	.2826	.0611	.2743		
112.500	.3271	.0342	.3540	.1324	.2903		
135.000	.4174	.4158	.3661	.4046	.3105		
157.500	.4141	.0760	.2249	.0387	.2543		
180.000	.3616	.1796	.3325	.1094	.3398	.2245********	

LARCVDHT646/647 IH17 OI+TB EXTERNAL TANK (QPRT03) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .000 MACH = 7.9115 PO = 497.82 TO = 1379.4 HO = .67283-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.6099
90.000												9.6773	1.7981	.4236	1.2230
112.500														.9956	3.7431
180.000	7.1274	1.5676	2.7374	.3320	.3335	2.9650	2.3147	.0000	1.3407	.0000	11.1474	12.9070	6.1990		*********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.2685								.2287			
45.000				.2376				.2942				.7054			
67.500		.3191		.4018				.9801				.9290		.4824	
90.000	.3391	.3455		1.2943		.2935		1.5469		.2760		.9509		.1603	
112.500	.3869	.3358		.0960		.3410		1.5319		[illegible]		.9921		.2524	
135.000	.3797	.3212	.3462	.2814		.0435		1.0674		.9857		1.0321		.9853	
157.500				.2295		.3150		1.3668		.9975		1.0595		1.0264	
180.000		*********	.3572	.0419	.2888	.2990	2.6654	1.1212	.1752	.2242	1.1179	1.1989	.1574	.2130	.8455

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.5875				
45.000	.7229		.7094		.4252		
67.500	.6025	.7001	.4684		.4659		
90.000	.6327	.1260	.5708	.1201	.5036		
112.500	.7870	.1610	.7929	.3607	.6804		
135.000	.9971	.9304	.9043	.5729	.6646		
157.500	.9752	.1533	.5909	.1167	.5999		
180.000	.7375	.4367	.7871	.2360	.7380	.7822*********	

LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK (QPRT04) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9609 PO = 735.96 TO = 1395.9 HO = .80603-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.7607
90.000												11.7643	2.1920	.5320	1.5287
112.500														1.1960	4.5009
180.000	8.4477	1.9998	3.3479	.4065	.4130	3.8395	2.7457	.0000	1.7031	.0000	13.2221	15.8478	7.3253		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.3338								.2834			
45.000				.2493				.3203				.8820			
67.500		.4072		.4908				1.1980				1.1453		.7348	
90.000	.4168	.4349		1.5951		.3693		2.0141		.3204		1.1167		.2081	
112.500	.4820	.4192		.1402		.4280		1.8303		.2664		1.2035		.3253	
135.000	.4740	.3796	.4120	.3411		.0562		1.2219		1.1878		1.2671		1.2025	
157.500				.2636		.3639		1.5948		1.1765		1.3136		1.2355	
180.000		********	.4128	.0800	.3430	.3475	3.3575	1.4353	.1929	.2527	1.3295	1.4525	.1601	.2432	1.0228

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.7827				
45.000	.9349		.7269		.4638		
67.500	.7497	.9134	.5953		.5529		
90.000	.7592	.1487	.6625	.1991	.7055		
112.500	.9714	.3069	.9523	.5382	.7880		
135.000	1.2117	1.1362	1.1093	1.0599	.8046		
157.500	1.2059	.2165	.6842	.1122	.7065		
180.000	.8716	.6073	.9468	.3343	.8809	.9015********	

LARCVDHT646/647 IH17 O1+T8 EXTERNAL TANK (OPRT05) (16 SEP 75)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	10.000

RN/L (1) = 10.000 ALPHA (1) = .000 MACH = 8.1061 PO = 2535.6 TO = 1448.2 HO = .14397

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															1.6162
90.000												19.6364	4.1816	1.0449	3.5083
112.500														2.3088	8.6775
180.000	15.3419	4.1988	7.0571	.8000	.8593	9.4049	7.3107	.0000	3.5339	.0000	19.7173	19.5210	13.4750		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.5845								1.1840			
45.000				.5214				1.1477				2.3420			
67.500		.7904		1.2495				2.4808				2.3750		1.8502	
90.000	.7765	.8436		3.7565		.6777		4.0734		.5958		2.2820		.3921	
112.500	.9387	.7920		.4369		.7959		4.0101		.3983		2.9949		.9803	
135.000	.8973	.8277	.8126	.7091		.1253		3.0542		3.4849		3.7765		3.1325	
157.500				.5750		.7187		4.2826		2.7963		4.1182		3.3562	
180.000		********	.8260	.1716	.6734	.6902	7.3276	2.9509	.3997	.4147	3.0053	3.3780	.4539	.3197	2.5659

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			2.2025				
45.000	1.8045		1.5747		1.1552		
67.500	1.7511	2.2227	1.3937		1.3559		
90.000	1.6605	.3071	1.6197	.6187	1.8434		
112.500	2.6135	.8605	2.5464	1.4936	2.0719		
135.000	3.4612	2.9267	2.8871	2.6456	1.9886		
157.500	3.3635	.8934	1.6288	.2464	1.8264		
180.000	1.8612	1.9138	2.5337	1.1261	2.3503	2.0684	********

LARCVDHT646/647 1H17 01+T8 EXTERNAL TANK (QPRT06) (16 SEP 75)

REFERENCE DATA			
SREF = 2690.0000 SQ.FT.	XMRP = .0000 IN.		
LREF = 474.8000 IN.	YMRP = .0000 IN.		
BREF = 936.7000 IN.	ZMRP = .0000 IN.		
SCALE = .0059			

PARAMETRIC DATA	
MACH = 8.000	ALPHA = -5.000
BETA = .000	RN/L = .100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.3731 PO = 23.805 TO = 1230.1 HO = .19473-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.2362
90.000												2.8604	.5257	.0964	.4369
112.500														.3206	1.0753
180.000	2.1010	.2923	.8072	.1545	.1584	.9135	.6265	.0000	.2426	.0000	3.0910	3.8539	1.8025		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0889								.0728			
45.000				.1011				.0889				.0980			
67.500		.0767		.1476				.1650				.1739		.0821	
90.000	.1063	.0678		.4185		.0945		.3495		.0658		.2633		.0439	
112.500	.0942	.0690		.0515		.0709		.4445		.0575		.3137		.0761	
135.000	.1015	.1157	.0553	.1216		.0115		.3730		.3031		.2950		.2855	
157.500				.1468		.0586		.4425		.3035		.3007		.2958	
180.000		********	.0988	.0215	.0713	.0601	.6195	.2641	.0551	.0499	.3467	.3130	.0373	.0288	.2552

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0534				
45.000	.0909		.1015		.0996		
67.500	.1528	.0688	.1455		.1298		
90.000	.2051	.0432	.1629	.0312	.1210		
112.500	.2195	.0379	.2072	.0503	.0985		
135.000	.2777	.2654	.2426	.1783	.0837		
157.500	.2813	.0558	.1817	.0349	.1557		
180.000	.2230	.0664	.2246	.0426	.1610	.0592	********

LARCVDHT646/647 IH17 01+T8 EXTERNAL TANK (QPRT07) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9615 PO = 737.51 TO = 1396.0 HO = .81195-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															1.1858
90.000												12.7879	2.7285	.3721	2.2570
112.500														1.5854	5.8535
180.000	10.0809	1.6493	4.4860	.7428	.8147	4.9770	3.3146	.0000	1.3864	.0000	12.6326	15.8482	8.9282		********

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.4222								.9168			
45.000				.4591				.8082				1.6978			
67.500		.4036		.8528				2.3463				.8869		.6506	
90.000	.5224	.3040		3.2085		.4657		2.1983		.2079		1.1624		.3566	
112.500	.3344	.4017		.2389		.2199		2.0043		.2423		1.6222		.6488	
135.000	.4425	.6264	.3048	.6453		.0810		1.5105		1.6506		1.6915		1.4388	
157.500				.6784		.1320		1.9641		1.3787		1.8709		1.5240	
180.000		********	.5027	.0929	3370	.2533	3.8949	2.8209	.3001	.1762	1.6660	1.5223	.3310	.1396	1.3420

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.4107				
45.000	.2753		.4563		.4096		
67.500	.7342	.4111	.6331		.5676		
90.000	1.0419	.1423	.8327	.2549	.8088		
112.500	1.2435	.3917	1.1735	.4350	.9541		
135.000	1.4952	1.3629	1.3415	1.2760	.9896		
157.500	1.4771	.5575	.9017	.4099	.8541		
180.000	1.1371	1.0185	1.1651	.3894	1.0786	.2440********	

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (QPRT08) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0039

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.4044 PO = 29.775 TO = 1231.5 HO = .30653-01

SECTION (1) EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.1335
90.000												2.4793	.4297	.1136	.2530
112.500														.2563	.6409
180.000	.6641	.3610	.5216	.0643	.0720	.7443	.3690	.0000	.2984	.0000	3.4338	3.6871	1.3981		.9395

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.0724								.0645			
45.000				.0715				.0448				.0715			
67.500		.1076		.0948				.1108				.1051		.0960	
90.000	.1052	.1009		.3119		.0916		.2220		.0719		.2324		.0554	
112.500	.1377	.1018		.0640		.0874		.3099		.0542		.2617		.0775	
135.000	.1244	.1032	.0971	.0650		*********		.2067		.2220		.2030		.1887	
157.500				.1642		.0703		.2527		.2266		.2072		.2031	
180.000		.1432	.0848	.0136	.0935	.0997	.3793	.1661	.0433	.0573	.2967	.2443	.0506	.0516	.1882

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.0632				
45.000	.0766		.0109		.0687		
67.500	.1199	.0938	.1193		.0651		
90.000	.1852	.0571	.1175	.0423	.0400		
112.500	.1358	.0468	.0687	.0777	.0190		
135.000	.1363	.0922	.0494	.0163	.0135		
157.500	.1605	.0560	.0416	.0481	.0889		
180.000	.2087	.0556	.1786	.0355	.0245	.0630	.0560

LARCVDHT646/647 IH17 01+T8+X23 EXTERNAL TANK (QPRT09) (16 SEP 75)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.
LREF =	474.8000 IN.	YMRP =	.0000 IN.
BREF =	936.7000 IN.	ZMRP =	.0000 IN.
SCALE =	.0059		

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	.500

RN/L (1) = .500 ALPHA (1) = .000 MACH = 7.6928 PO = 108.93 TO = 1269.4 HO = .30968-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.3235
90.000												4.6299	.9241	.1573	.6637
112.500														.4244	1.1810
180.000	3.1420	.5003	1.6141	.1784	.1942	1.5091	.7615	.0000	.4254	.0000	5.0108	6.7421	2.6326		1.8048

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.1196								.1328			
45.000				.1209				.1497				.2164			
67.500		.1364		.2017				.2109				.2506		.1996	
90.000	.1397	.1090		.6068		.1019		.4681		.0803		.4505		.0835	
112.500	.1489	.1238		.0968		.0952		.6144		.0685		.4901		.1745	
135.000	.1170	.1555	.1280	.1060		********		.4724		.3736		.4018		.3718	
157.500				.1597		.1329		.5592		.3712		.3954		.3906	
180.000		.2553	.1474	.0397	.1321	.1333	.8021	.3249	.0961	.0976	.5128	.4701	.0725	.0805	.4073

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.2258				
45.000	.1643		.1482		.1560		
67.500	.2536	.1589	.2672		.2455		
90.000	.3616	.0679	.3009	.0643	.2693		
112.500	.3583	.1095	.3219	.1724	.2807		
135.000	.3870	.3798	.3992	.3760	.2771		
157.500	.3737	.0709	.3247	.0528	.2820		
180.000	.3882	.2188	.3304	.1044	.3085	.1970	.1464

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (QPRT10) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .000 MACH = 7.9104 PO = 493.62 TO = 1339.3 HO = .66755-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															.9839
90.000												10.0881	3.0688	.5425	2.4415
112.500														1.2694	4.4129
180.000	7.1785	1.2814	7.6014	.5003	.5259	5.3596	1.9443	.0000	1.0666	.0000	9.8618	13.9723	6.0319		3.7532

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.2147								.6638			
45.000				.4418				.7527				.5744			
67.500		.3472		.7541				.6851				.6898		.6652	
90.000	.3335	.4009		1.9458		.2379		1.1992		.2223		1.0970		.3458	
112.500	.4634	.3733		.2813		.3750		1.4654		.3061		1.0913		.6263	
135.000	.4454	.3757	.3876	.2308		********		1.1666		.9519		.9357		.8828	
157.500				.5079		.2860		1.3815		.9911		.9737		.9111	
180.000		.6461	.3624	.1116	.3094	.3491	2.2481	1.0419	.3609	.2090	1.2428	1.1109	.3457	.1435	.8805

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.6385				
45.000	.4402		.4676		.4391		
67.500	.7839	.5569	.5653		.4351		
90.000	.7808	.2402	.5874	.2969	.5528		
112.500	.7461	.5015	.7055	.5772	.6189		
135.000	.8459	.8234	.8325	.8112	.6079		
157.500	.8450	.4123	.6444	.1485	.5544		
180.000	.9399	.7177	.7137	.4644	.6777	.4994	.5200

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (QPRT11) (16 SEP 75)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9591 PO = 723.36 TO = 1376.4 HO = .79966-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE CDOT

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															1.3153
90.000												11.9990	4.3089	.7406	3.3400
112.500														1.7873	5.6204
180.000	8.4812	1.7403	9.2007	.6501	.6697	7.1081	2.5685	.0000	1.4815	.0000	12.4737	16.4339	7.1385		4.3589

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				.3013								.8106			
45.000				.5685				.9483				.8819			
67.500		.4888		1.0713				.9342				.8853		.8804	
90.000	.4674	.5537		2.4981		.2970		1.4636		.2771		1.3424		.4992	
112.500	.6380	.5261		.3801		.4994		1.8802		.4094		1.3338		.8578	
135.000	.6232	.5372	.5177	.3516		********		1.4929		1.2570		1.2254		1.1853	
157.500				.6623		.3918		1.7930		1.2880		1.2725		1.2125	
180.000		.8678	.5058	[illegible]	.4200	.4608	2.8452	1.2978	.4899	.2586	1.5621	1.3768	.4539	.1936	1.0458

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			.8394				
45.000	.6298		.5912		.4956		
67.500	.9334	.7089	.7588		.5316		
90.000	.9315	.3621	.6807	.4370	.6817		
112.500	.8944	.6505	.8758	.7936	.7784		
135.000	1.1667	1.1023	1.0613	1.0246	.7482		
157.500	1.1826	.5246	.7623	.2290	.6779		
180.000	1.1458	.9291	.8817	.5711	.8423	.6576	.6608

LARCVDHT646/647 IH17 O1+T8+X23 EXTERNAL TANK (QPRT12) (16 SEP 75)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	10.000

RN/L (1) = 10.000 ALPHA (1) = .000 MACH = 8.1063 PO = 2541.3 TO = 1430.1 HO = .14365

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0050	.0100	.0200	.0400	.0600	.0800	.1000	.1250	.1500	.1750	.2000	.2500	.2750	.3000
PHI															
67.500															3.0343
90.000												20.0296	10.8222	1.7788	7.0852
112.500														4.4337	16.1387
180.000	14.8506	3.9164	14.7024	1.2422	1.6632	11.8996	5.9305	.0000	3.3235	.0000	15.5303	19.8741	12.4100		9.4724

X/L	.3250	.3500	.3750	.4000	.4250	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750
PHI															
.000				1.2251								2.1456			
45.000				1.2726				2.0484				2.5625			
67.500		1.1219		3.1345				3.0703				1.7487		2.1899	
90.000	1.1208	1.3238		5.9064		.9395		3.1149		1.1582		2.8453		1.3333	
112.500	1.5326	1.1414		.9442		1.1596		4.0948		.8787		3.6401		2.1615	
135.000	1.3029	1.2237	1.2879	1.4156		********		3.3546		4.3434		3.6959		3.7662	
157.500				1.7314		1.1279		3.9429		3.5528		4.2128		3.5853	
180.000		2.4783	1.3718	.4992	1.2721	1.0909	6.1429	3.3984	1.2076	1.1299	4.0633	2.7130	1.5167	1.8629	2.9319

X/L	.7000	.7500	.8000	.8500	.9000	.9345	.9738
PHI							
.000			1.9905				
45.000	1.8692		1.3045		1.1495		
67.500	1.7003	1.8950	1.7256		1.8477		
90.000	2.2512	1.7134	2.1995	1.8586	2.1006		
112.500	2.8668	1.9455	2.6702	1.8825	2.1309		
135.000	3.4183	3.1359	2.8454	2.6919	1.9721		
157.500	3.7478	1.9289	2.1774	1.8847	2.2981		
180.000	2.5831	2.0046	2.7231	1.6684	2.4596	1.7245	1.5435

LARCVDHT647 IH17 TB EXTERNAL TANK (QPRT13) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7300 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = 000 MACH = 7.2734 PO = 14.840 TO = 1235.8 HO = .18053-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0739	
45.000														.0746	
67.500											.1524			.0644	
90.000									2.4111		.2711			.0543	
112.500											.8066			.0183	
135.000												.0882		.0679	
157.500														.0703	
180.000	1.6057	.5768	.0834	.0919	.0733	.0611	.0000	.0000	3.6084	1.3621	1.0403	.1412	.0877	.0221	.0843

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0578						.0602		
45.000			.0757				.0692				.0489		.0463		.0511
67.500			.0817				.0634				.0505		.0511		.0501
90.000			.0573				.0559				.0504		.0564		.0576
112.500			.0602				.0522				.0406		.0624		.0509
135.000	********		.0541		.0475		.0446		.0446		.0638	.0473	.0547	.0563	.0448
157.500	.0749		.0540		.0550		.0585		.0691		.0439	.0632	.0525	.0556	.0419
180.000	.0763	.0696	.0655	.0796	.0729	.0487	.0528	.0606	.0686	.0425	.0651	.0630	.0543	.0541	.0654

X/L	.9345	.9738
PHI		
180.000	.0500	.0576

LARCVDHT647 IH17 T8 EXTERNAL TANK (QPRT14) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

PN/L (1) = .500 ALPHA (1) = .000 MACH = 7.6879 PC = 105.69 TO = 1255.1 HO = .30594-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.1246	
45.000														.1098	
67.500											.2821			.1207	
90.000									4.4116		.5168			.1191	
112.500											1.4638			.0399	
135.000												.1528		.1497	
157.500														.1333	
180.000	2.9439	1.0627	.1485	.1649	.1398	.1090	.000[illegible]	.0000	6.6353	2.4794	1.8900	.2627	.1474	.0371	.1443

X/L	.4500	.4750	.5000	.5250	.5500	.57[illegible]0	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.1109						.0904		
45.000			.1251				.1106				.0926		.1029		.0893
67.500			.1173				.0971				.1063		.1038		.0920
90.000			.1193				.0862				.1139		.0985		.0926
112.500			.1196				.0907				.1068		.0677		.0976
135.000	********		.1175		.0895		.0563		.0824		.1172	.0990	.1049	.1004	.0844
157.500	.1476		.0885		.0989		.0868		.0970		.1051	.1044	.1015	.1126	.1044
180.000	.1481	.1351	.1106	.0851	.1182	.1187	.1043	.1119	.1226	.0987	.0945	.0961	.1152	.0934	.0753

X/L	.9345	.9738
PHI		
180.000	.0754	.0882

LARCVDHT647 IH17 T8 EXTERNAL TANK (QPRT15) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .000 MACH = 7.9096 PO = 490.51 TO = 1372.8 HO = .66874-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.3351	
45.000														.3228	
67.500											.6196			.3231	
90.000									10.4962		1.2958			.2443	
112.500											3.6470			.0645	
135.000												.3503		.3221	
157.500														.3090	
180.000	7.4710	2.6820	.3464	.3482	.3011	.2648	.0000	.0000	14.5686	6.3273	4.8470	.5998	.3257	.0673	.2975

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.2395						.1996		
45.000			.2783				.2372				.2187		.2017		.2063
67.500			.2729				.2344				.2290		.2026		.1995
90.000			.2545				.2223				.2213		.1935		.1756
112.500			.2605				.2106				.2091		.1593		.1715
135.000	********		.2516		.2240		.2306		.2144		.1931	.1916	.1941	.1828	.1498
157.500	.3160		.2620		.2094		.2155		.2128		.1940	.1980	.2092	.2436	.1815
180.000	.3068	.2701	.2904	.2949	.2775	.2234	.2315	.2349	.3112	.2260	.2178	.2033	.2025	.2073	.1951

X/L	.9345	.9738
PHI		
180.000	.2208	.1976

LARCVDHT647 IH17 T8 EXTERNAL TANK (QPRT16) (16 SEP 75)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.		
LREF =	474.8000 IN.	YMRP =	.0000 IN.		
BREF =	936.7000 IN.	ZMRP =	.0000 IN.		
SCALE =	.0059				

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9634 PO = 748.71 TO = 1365.0 HO = .80974-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.3612	
45.000														.3627	
67.500											.7133			.3686	
90.000									12.0990		1.4989			.2784	
112.500											4.3193			.0880	
135.000												.4311		.3706	
157.500														.3538	
180.000	8.7368	3.1593	.3781	.3830	.3420	.2915	.0000	.0000	16.3223	7.5095	5.7480	.6770	.3973	.0964	.3480

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.2779						.2284		
45.000			.2954				.2490				.2421		.2587		.2132
67.500			.3077				.2731				.2579		.2281		.2026
90.000			.2919				.2434				.2582		.2249		.2000
112.500			.2915				.2593				.2368		.2111		.1895
135.000	********		.2961		.2708		.2618		.2357		.2499	.2164	.2306	.2271	.1947
157.500	.3296		.2791		.2378		.2469		.2585		.2677	.2400	.2305	.2857	.1974
180.000	.3799	.2966	.3237	.3342	.3517	.2598	.2695	.2854	.3272	.2417	.2356	.2375	.2323	.2579	.2123

X/L	.9345	.9738
PHI		
180.000	.2499	.2392

LARCVDHT647 IH17 T8 EXTERNAL TANK (QPRT17) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 ALPHA (1) = .000 MACH = 8.1058 PO = 2528.1 TO = 1434.9 HO = .14356

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.7338	
45.000														.7102	
67.500											1.4786			.7030	
90.000									20.7208		2.9365			.5343	
112.500											8.3622			.1452	
135.000												.7768		.7363	
157.500														.6979	
180.000	15.7770	6.2278	.7546	.8328	.6685	.5992	.0000	.0000	20.6447	13.7845	10.7924	1.4119	.9579	.1518	.7531

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.5548						.4760		
45.000			.5728				.5263				.4662		.4437		.4764
67.500			.6267				.5123				.4818		.4905		.4790
90.000			.5986				.5228				.4786		.4655		.4083
112.500			.5994				.5324				.4383		.4635		.4075
135.000	********		.5633		.5114		.4721		.4700		.4253	.4258	.4136	.4501	.3826
157.500	.6230		.5969		.5472		.5017		.4756		.4351	.5091	.4632	.6295	.4445
180.000	.6471	.6402	.6453	.6984	.7421	.5401	.5342	.6140	.6998	.4606	.4785	.4946	.4243	.5425	.4231

X/L	.9345	.9738
PHI		
180.000	.5267	.5573

LARCVDHT647 IH17 TB EXTERNAL TANK (QPRT18) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.2748 PO = 14.910 TO = 1226.3 HO = .19826-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	3750	.4000	.4250
PHI															
.000														.1036	
45.000														.1234	
67.500											.2229			.1354	
90.000									2.9904		.4122			.1129	
112.500											1.0801			.0173	
135.000												.1353		.1304	
157.500														.1393	
180.000	2.1331	.8213	.1585	.1600	.1266	.1316	.0000	.0000	4.1067	1.8181	1.4051	.1802	.1099	.0175	.0817

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0654						.0648		
45.000			.0871				.0862				.0711		.0778		.0699
67.500			.1139				.0922				.0939		.1007		.0969
90.000			.1263				.1133				.1120		.1153		.1064
112.500			.1230				.1286				.1163		.1225		.1232
135.000	********		.1337		.1286		.1239		.1327		.1248	.1269	.1387	.1460	.1181
157.500	.0572		.1401		.1317		.1287		.1286		.1280	.0434	.1151	.0258	.1176
180.000	.0675	.1299	.1229	.0753	.0516	.1308	.1125	.0466	.0422	.1216	.1164	.0631	.1093	.0472	.1268

X/L	.9345	.9738
PHI		
180.000	.0504	.0398

LARCVDHT647 IH17 TB EXTERNAL TANK (QPRT19) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9577 PO = 715.74 TO = 1387.0 HO = .81670-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.4836	
45.000														.5834	
67.500											1.1198			.6580	
90.000									13.0365		2.1017			.6297	
112.500											5.7362			.1116	
135.000												.6092		.6864	
157.500														7378	
180.000	10.0689	4.2585	.7191	.7967	.7715	.7134	.0000	.0000	16.5437	8.9557	7.3418	.7217	.4976	.0714	.3455

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.3159						.2718		
45.000			.4147				.4243				.4008		.4114		.3581
67.500			.5488				.4631				5066		.5462		.4749
90.000			.6227				.5544				.6391		.6271		.6081
112.500			.7227				.6756				.6156		.6503		.7098
135.000	********		.7322		.6807		.6762		.6975		.7012	.6866	.7275	.7530	.6488
157.500	.1295		.7206		.6951		.6859		.7005		.6993	.1716	.6333	.2493	.5845
180.000	.2482	.7305	.6224	.3316	.2273	.7073	.5915	.2138	.1322	.6126	.5581	.2979	.6959	.1482	.6785

X/L	.9345	.9738
PHI		
180.000	.2391	.1148

LARCVDHT647 1H17 TB+X23 EXTERNAL TANK (QPRT20) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT	XMRP = .0000 IN.		
LREF = 474.8000 IN	YMRP = .0000 IN.		
BREF = 936.7000 IN	ZMRP = .0000 IN.		
SCALE = .0059			

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.2738 PO = 14.860 TO = 1199.0 HO = .18500-01

SECTION (1)EXTERNAL TANK

DEPENDENT VARIABLE QDOT

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.0874	
45.000														.0682	
67.500											.1283			.0638	
90.000									2.3699		.2432			.0562	
112.500											.5850			.0160	
135.000												.0831		.0761	
157.500														.0747	
180.000	1.5743	.4322	.0763	.0795	.0623	.0628	.0000	.0000	3.5570	1.3188	.9552	.1258	.0763	.0161	.0794

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.0637						.0567		
45.000			.0661				.0616				.0507		.0485		.0495
67.500			.0713				.0555				.0434		.0568		.0458
90.000			.0547				.0509				.0536		.0513		.0408
112.500			.0635				.0659				.0462		.0468		.0481
135.000	********		.0553		.0482		.0611		.0449		.0502	.0482	.0516	.0490	.0448
157.500	.0718		.0472		.0482		.0557		.0483		.0561	.0630	.0460	.0524	.0476
180.000	.0875	.0722	.0696	.0759	.0680	.0619	.0540	.0751	.0641	.0506	.0585	.0580	.0527	.0518	.0521

X/L	.9345	9738
PHI		
180.000	.0474	.0444

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (QPRT21) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 ALPHA (1) = .000 MACH = 7.6931 PO = 109.13 TO = 1238.2 HO = .30804-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.1304	
45.000														.1297	
67.500											.2486			.1182	
90.000									4.3737		.5459			.1017	
112.500											1.0597			.0289	
135.000												.1379		.1275	
157.500														.1222	
180.000	2.8927	1.1351	.1392	.1603	.1116	.0985	.0000	.0000	6.5039	2.4332	1.6495	.2199	.1393	.0267	.1230

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.1098						.0784		
45.000			.1140				.1076				.1033		.0922		.0813
67.500			.1209				.1048				.1066		.0967		.0808
90.000			.1091				.0912				.0932		.0942		.0719
112.500			.1205				.0991				.1120		.0976		.0825
135.000	********		.1049		.0896		.0749		.0827		.0907	.0829	.0727	.0741	.0649
157.500	.1258		.0997		.0944		.0834		.0872		.0752	.0949	.0876	.1040	.0774
180.000	.1415	.1248	.1044	.1190	.1345	.1060	.0931	.1127	.1212	.1055	.0865	.0932	.1018	.0736	.0829

X/L	.9345	.9738
PHI		
180.000	.0837	.0801

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (QPRT22) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 47- 8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .000 MACH = 7.9065 PO = 479.00 TO = 1364.5 HO = .65937-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE CDOT

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.4009	
45.000														.4153	
67.500											.7810			.3450	
90.000									10.2443		1.8405			.3214	
112.500											2.8788			.0708	
135.000												.4766		.0886	
157.500														.3285	
180.000	7.2885	4.2300	.4082	.4015	.3117	.2768	.0000	.0000	14.2124	6.0614	3.6363	.8119	.4468	.0703	.3687

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.3273						.2928		
45.000			.3334				.3130				.2917		.3044		.2973
67.500			.3736				.3525				.3292		.3290		.2840
90.000			.3216				.2575				.2739		.2276		.2179
112.500			.3348				.3038				.2811		.2594		.2480
135.000	********		.3016		.2580		.2473		.2485		.2504	.2447	.2617	.2768	.2383
157.500	.3883		[illegible]		.2694		.2578		.2670		.2682	.2830	.2660	.2761	.2476
180.000	.4095	.3574	.3065	.3388	.3830	.3166	.2948	.3466	.3664	.2724	.2548	.3009	.2817	.2742	.2485

X/L	.9345	.9738
PHI		
180.000	.2906	.2939

REPRODUCIBILITY OF THE ORIGINAL PAGE IS POOR

LARCVDHT647 IH17 T8+X23 EXTERNAL TANK (QPRT23) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9615 PO = 737.82 TO = 1377.3 HO = .80722-01

SECTION (1)EXTERNAL TANK DEPENDENT VARIABLE QDOT

X/L	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
PHI															
.000														.4836	
45.000														.5140	
67.500											1.1470			.4677	
90.000									12.2235		2.5812			.3744	
112.500											3.8982			.0828	
135.000												.5792		.4911	
157.500														.4825	
180.000	8.7710	5.6038	.6173	.5575	.4464	.3988	.0000	.0000	16.4737	7.4057	4.4159	1.0726	.5689	.0973	.5141

X/L	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
PHI															
.000							.4735						.4419		
45.000			.4172				.3951				.3949		.4223		.4034
67.500			.4668				.3992				.4039		.4042		.3620
90.000			.3770				.3435				.3239		.3104		.2640
112.500			.4161				.3684				.3696		.3613		.3338
135.000	********		.3823		.3865		.3430		.3426		.3566	.3816	.3814	.3799	.3236
157.500	.4602		.3928		.3575		.3500		.3489		.3743	.4119	.3182	.4003	.2944
180.000	.5803	.4579	.4184	.4876	.5155	.4311	.3433	.4623	.4806	.3724	.3330	.4571	.3519	.3916	.3379

X/L	.9345	.9738
PHI		
180.000	.4508	.3869

DATE 16 MAR 76 TABULATED SOURCE ' 'A, IH'7, LARC VDHT 646-647

LARCVDHT647 IH17 TB+X23 EXTERNAL TANK (QPRT24) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 ALPHA (1) = .000 MACH = 8.1066 PO = 2547.7 TO = 1454.3 HO = .14390

SECTION (1)EXTERNAL TANK

DEPENDENT VARIABLE QDOT

X/L / PHI	.0000	.0100	.0200	.0400	.0600	.0800	.1000	.1500	.2000	.2500	.3000	.3500	.3750	.4000	.4250
.000														1.3676	
45.000														1.2923	
67.500											3.1046			1.5233	
90.000									21.0750		6.9044			1.2604	
112.500											12.0932			.3266	
135.000												1.4166		1.5205	
157.500														1.5335	
180.000	15.9770	14.3655	1.5386	1.6638	1.6596	1.7109	.0000	.0000	20.9015	13.3578	9.3892	2.5676	1.4615	.3069	1.5593

X/L / PHI	.4500	.4750	.5000	.5250	.5500	.5750	.6000	.6250	.6500	.6750	.7000	.7500	.8000	.8500	.9000
.000							2.1498						1.8918		
45.000			1.4801				1.8381				1.8696		1.8781		1.7633
67.500			1.4304				1.6610				1.9012		1.9943		1.7749
90.000			1.7481				1.9710				1.9753		1.8504		1.6242
112.500			1.8091				2.1268				2.0657		2.0479		1.8123
135.000	********		1.9247		1.9482		1.9769		1.9977		1.9453	1.8867	1.8627	1.8649	1.5608
157.500	1.2050		1.7983		1.9262		1.9934		2.0413		1.9470	2.0696	1.8963	1.8496	1.7974
180.000	1.6899	1.6584	1.5577	1.8555	1.8826	1.9761	1.8606	2.1271	2.1802	2.0799	1.9563	2.1014	2.0877	1.8783	1.9560

X/L / PHI	.9345	.9738
180.000	1.7809	1.7645

LARCVDHT646 IH17 O1+T8 ORBITER WING (QPRW01) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.3731 PO = 23.805 TO = 1236.7 HO = .19479-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.0713	
.200		.0592	
.225	.0160		
.250	.0150		.1137
.300	.1426	.2791	.0879
.400	.1699	.3398	.5350
.500	.1513	.2872	.4752
.600	.1334	.2699	.4004
.700	.1153	.2186	
.800	.0978	.1871	
.875		.1673	
.900	.0924		

LARCVDHT646 IH17 O1+T8 ORBITER WING (QPRW02) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 ALPHA (1) = 000 MACH = 7.7041 PO = 117.18 TO = 1270.3 HO = .32105-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.1115	
.200		.0711	
.225	.1056		
.250	.0692		.1995
.300	.3135	.5182	.1374
.400	.3501	.6484	1.0157
.500	.2889	.5045	.8714
.600	.2489	.4679	.7594
.700	.2099	.3710	
.800	.1794	.3238	
.875		.2801	
.900	.1520		

LARCVDHT646 IH17 O1+T8 ORBITER WING (QPRW03) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .000 MACH = 7.9115 PO = 497.82 TO = 1379.4 HO = .67283-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.2700	
.200		.2053	
.225	.2390		
.250	.1049		.5236
.300	.8890	1.3211	.3417
.400	.9355	1.6391	2.6088
.500	.8955	1.2704	2.2562
.600	.7440	1.1226	1.9424
.700	.6063	.9802	
.800	.4346	.7716	
.875		.6574	
.900	.3545		

LARCVDHT646 IH17 O1+T8 ORBITER WING (QPRW04) (16 SEP 75)

REFERENCE DATA

SREF	=	2690.0000 SQ.FT.	XMRP	=	.0000 IN.
LREF	=	474.8000 IN.	YMRP	=	.0000 IN.
BREF	=	936.7000 IN.	ZMRP	=	.0000 IN.
SCALE	=	.0059			

PARAMETRIC DATA

MACH	=	8.000	ALPHA	=	.000
BETA	=	.000	RN/L	=	5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9609 PC = 735.96 TO = 1395.9 HO = .80603-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.3699	
.200		.2417	
.225	.2865		
.250	.1369		.6368
.300	1.1454	1.7204	.4284
.400	1.2091	2.1145	3.3277
.500	1.1565	1.6098	2.8769
.600	.9667	1.4335	2.4919
.700	.7795	1.2448	
.800	.5121	.9875	
.875		.8186	
.900	.4349		

LARCVDHT646 IH17 O1+T8 ORBITER WING (QPRW05) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 ALPHA (1) = .000 MACH = 8.1061 PO = 2535.6 TO = 1448.2 HO = .14397

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		1.0304	
.200		.6508	
.225	.5495		
.250	.3542		1.5525
.300	2.4474	3.3329	1.0686
.400	2.6777	4.2566	6.5573
.500	2.5029	3.2873	5.7807
.600	2.1823	2.9607	5.0769
.700	1.7937	2.7818	
.800	1.3703	2.3633	
.875		2.0111	
.900	1.1339		

LARCVDHT646 IH17 O1+T8 ORBITER WING (QPRW06) (16 SEP 75)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.
LREF =	474.8000 IN.	YMRP =	.0000 IN.
BREF =	936.7000 IN.	ZMRP =	.0000 IN.
SCALE =	.0059		

PARAMETRIC DATA

MACH =	8.000	ALPHA =	-5.000
BETA =	.000	RN/L =	.100

RN/L (1) = 100 ALPHA (1) = .000 MACH = 7.3731 PO = 23.805 TO = 1230.1 HO = .19473-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.0664	
.200		.0512	
.225	.0162		
.250	.0110		.0987
.300	.1572	.2808	.0817
.400	.1599	.3320	.4925
.500	.1617	.2718	.4252
.600	.1251	.2339	.3714
.700	.1132	.1960	
.800	.0763	.1580	
.875		.1396	
.900	.0602		

LARCVDHT646 IH17 O1+T8 ORBITER WING (QPRW07) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9615 PO = 737.51 TO = 1396.0 HO = .81195-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.3760	
.200		.2516	
.225	.3425		
.250	.1046		.5568
.300	1.0408	1.7137	.3292
.400	1.0793	2.0163	2.8893
.500	1.0216	1.5547	2.4646
.600	.8044	1.3554	2.1014
.700	.6353	1.1713	
.800	.4842	.9214	
.875		.7294	
.900	.4136		

LARCVDHT646 IH17 C1+T8+X23 ORBITER WING (QPRW08) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .000 MACH = 7.4044 PO = 29.775 TO = 1231.5 HO = .30653-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.0802	
.200		.0436	
.225	.0301		
.250	.0150		.1363
.300	.1556	.2956	.1087
.400	.1611	.3737	.5708
.500	.1711	.3042	.4962
.600	.1665	.2819	.4514
.700	.1489	.2373	
.800	.0902	.2045	
.875		.1495	
.900	.0866		

LARCVDHT646 IH17 01 T8+X23 ORBITER WING (QPRW09) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 935.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 ALPHA (1) = .000 MACH = 7.6928 PO = 108.93 TO = 1269.4 HO = .30968-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.1340	
.200		.0814	
.225	.0872		
.250	.0782		.1723
.300	.2951	.4522	.1319
.400	.3239	.5290	.8997
.500	.3136	.4379	.7591
.600	.2550	.3911	.6435
.700	.2263	.3361	
.800	.1716	.2671	
.875		.2368	
.900	.1525		

LARCVDHT646 IH17 O1+T8+X23 ORBITER WING (QPRW10) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .000 MACH = 7.9104 PO = 493.62 TO = 1339.3 HO = .66755-01

SECTION (1)ORBITER WING

DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.3043	
.200		.1773	
.225	.2206		
.250	.1109		.4863
.300	.7142	1.0943	.3323
.400	.7740	1.3673	2.1863
.500	.7264	1.0418	1.8816
.600	.6482	.9271	1.6342
.700	.5753	.8339	
.800	.4158	.6935	
.875		.6017	
.900	.3494		

LARCVDHT646 IH17 O1+T8+X23 ORBITER WING (QPRW11) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .000 MACH = 7.9591 PO = 723.36 TO = 1376.4 HO = .79966-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.3997	
.200		.2511	
.225	.3191		
.250	.1409		.6160
.300	1.0138	1.5296	.4381
.400	1.1062	1.8669	2.9790
.500	1.0532	1.4492	2.5525
.600	.9050	1.3002	2.2185
.700	.7019	1.1608	
.800	.5605	.9407	
.375		.7698	
.900	.4626		

LARC,DHT646 IH17 O1+T8+X23 ORBITER WING (QPRW12) (16 SEP 75)

REFERENCE DATA

SREF	= 2690.0000 SQ.FT	XMRP	= .0000 IN.		
LREF	= 474.8000 IN.	YMRP	= .0000 IN.		
BREF	= 936.7000 IN.	ZMRP	= .0000 IN.		
SCALE	= .0059				

PARAMETRIC DATA

MACH =	8.000	ALPHA =	.000
BETA =	.000	RN/L =	10.000

RN/L (1) = 10.000 ALPHA (1) = .000 MACH = 8.1063 PO = 2541.3 TO = 1430.1 HO = .14365

SECTION (1)ORBITER WING DEPENDENT VARIABLE CDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.9230	
.200		.5622	
.225	1.0482		
.250	.4071		1.5845
.300	2.3701	2.9549	1.1051
.400	2.5751	4.2436	6.5951
.500	2.5105	3.1390	5.6303
.600	2.2553	2.8644	4.8777
.700	1.6982	2.6170	
.800	1.4169	2.2409	
.875		1.9645	
.900	1.1120		

LARCVDHT646 IH17 O1+X23 ORBITER WING (QPRW25) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .100

RN/L (1) = .100 ALPHA (1) = .850 MACH = 7.4713 PO = 32.700 TO = 1251.6 HO = .19145-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.1186	
.200		.0902	
.225	.0694		
.250	.0709		.1639
.300	.2180	.3151	.0950
.400	.2617	.4329	.5137
.500	.2417	.3405	.4501
.600	.2263	.2944	.3897
.700	.1847	.2620	
.800	.1556	.2148	
.875		.1979	
.900	.1326		

LARCVDHT646 IH17 O1+X23 ORBITER WING

(QPRW26) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 ALPHA (1) = .850 MACH = 7.6953 PO = 110.64 TO = 1280.2 HO = .31029-01

SECTION (1)ORBITER WING

DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.1861	
.200		.0990	
.225	.0803		
.250	.0824		.2406
.300	.4286	.5950	.1742
.400	.4508	.7788	.9375
.500	.4225	.5895	.8389
.600	.3549	.5308	.7103
.700	.2741	.4722	
.800	.2135	.3821	
.875		.3202	
.900	.1737		

LARCVDHT646 IH17 O1+X23 ORBITER WING (QPRW27) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .850 MACH = 7.9095 PO = 490.20 TO = 1368.1 HO = .66564-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.4125	
.200		.2616	
.225	.1840		
.250	.1427		.6167
.300	1.0186	1.4732	.4005
.400	1.1009	2.0059	2.3542
.500	1.0307	1.4737	2.0648
.600	.8888	1.2719	1.7531
.700	.7515	1.1221	
.800	.5527	.8759	
.875		.7510	
.900	.4514		

LARCVDHT646 IH17 O1+X23 ORBITER WING (QPRW28) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .850 MACH = 7.9584 PO = 719.47 TO = 1388.6 HO = .80567-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE CDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.5369	
.200		.3383	
.225	.2335		
.250	.1879		.8068
.300	1.3370	1.9056	.5518
.400	1.4241	2.5758	3.0291
.500	1.3479	1.8862	2.6452
.600	1.1392	1.6443	2.2496
.700	.9533	1.4745	
.800	.7182	1.1808	
.875		.9795	
.900	.6024		

LARCVDHT646 IH17 O1+X23 ORBITER WING (QPRW29) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 ALPHA (1) = .850 MACH = 8.1054 PO = 2520.7 TO = 1454.3 HO = .14363

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		1.4465	
.200		.8590	
.225	.8455		
.250	.7339		2.4146
.300	2.7533	4.6047	1.5546
.400	2.9337	6.2668	6.5391
.500	2.8130	4.8472	5.7580
.600	2.5323	4.5945	4.8108
.700	2.2587	4.3425	
.800	1.8437	3.7757	
.875		3.1734	
.900	1.6281		

LARCVDHT646 IH17 01 ORBITER WING (QPRW30) (16 SEP 75)

REFERENCE DATA

SREF =	2690.0000 SQ.FT.	XMRP =	.0000 IN.
LREF =	474.8000 IN.	YMRP =	.0000 IN.
BREF =	936.7000 IN.	ZMRP =	.0000 IN.
SCALE =	.0059		

PARAMETRIC DATA

MACH =	8.000	ALPHA =	-5.000
BETA =	.000	RN/L =	.100

RN/L (1) = .100 ALPHA (1) = .850 MACH = 7.4647 PO = 31.700 TO = 1221.4 HO = .18849-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.4291	
.200		.3520	
.225	.5075		
.250	.4730		.3854
.300	.4730	.5698	.3168
.400	.5547	.7773	.8861
.500	.5283	.6126	.8174
.600	.5080	.5925	.7323
.700	.4835	.5343	
.800	.4254	.4717	
.875		.4401	
.900	.3316		

LARCVDHT646 IH17 O1 ORBITER WING (QPRW31) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = -5.000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .850 MACH = 7.9611 PO = 735.33 TO = 1391.4 HO = .80672-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.1765	
.200		.0952	
.225	.5463		
.250	.3710		.4825
.300	.6121	1.5237	.3519
.400	.6100	2.0318	2.4324
.500	.5552	1.4592	2.1449
.600	.4342	1.2605	1.7702
.700	.3394	1.0771	
.800	.2419	.8403	
.875		.6497	
.900	.2014		

LARCVDHT645 IH17 01 ORBITER WING (QPRW32) (16 SEP 75)

REFERENCE DATA			
SREF = 2690.0000 SQ.FT.	XMRP = .0000 IN.		
LREF = 474.8000 IN.	YMRP = .0000 IN.		
BREF = 936.7000 IN.	ZMRP = .0000 IN.		
SCALE = .0059			

PARAMETRIC DATA	
MACH = 8.000	ALPHA = .000
BETA = .000	RN/L = .100

RN/L (1) = .100 ALPHA (1) = 850 MACH = 7.4713 PO = 32.700 TO = 1211.4 HO = .19041-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.0885	
.200		.0714	
.225	.0731		
.250	.0422		.1742
.300	.2685	.3487	.0952
.400	.2894	.4660	.5264
.500	.2811	.3561	.4615
.600	.2433	.3302	.4054
.700	.1534	.2801	
.800	.1434	.2192	
.875		.2173	
.900	.1474		

LARCVDHT646 IH17 01 ORBITER WING (QPRW33) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = .500

RN/L (1) = .500 ALPHA (1) = .850 MACH = 7.6961 PO = 111.17 TO = 1233.0 HO = .31093-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.1770	
.200		.1165	
.225	.1008		
.250	.0532		.2342
.300	.3995	.5058	.1721
.400	.4250	.7045	.8349
.500	.4098	.5220	.7255
.600	.3450	.4796	.6146
.700	.2871	.4227	
.800	.2282	.357[illegible]	
.875		.2777	
.900	.1953		

LARCVDHT646 IH17 01 ORBITER WING (QPRW34) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 2.000

RN/L (1) = 2.000 ALPHA (1) = .850 MACH = 7.9098 PO = 491.13 TO = 1348.7 HO = .64181-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		.4160	
.200		.2678	
.225	.1698		
.250	.1615		.6190
.300	1.1169	1.4863	.4121
.400	..1860	2.0236	2.3552
.500	1.1150	1.4991	2.0724
.600	.9332	1.3434	1.8196
.700	.7288	1.1910	
.800	.5213	.9606	
.875		.8032	
.900	.4304		

LARCVDHT646 IH17 OI ORBITER WING (QPRW35) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 5.000

RN/L (1) = 5.000 ALPHA (1) = .850 MACH = 7.9622 PO = 741.56 TO = 1377.1 HO = .80824-01

SECTION (1)ORBITER WING DEPENDENT VARIABLE QDCT

2Y/B	.4000	.6000	.8000
X/C			
.175		.4454	
.200		.2962	
.225	.2170		
.250	.1707		.8446
.300	1.4390	1.9321	.5304
.400	1.5331	2.5473	2.9555
.500	1.4291	1.9168	2.6135
.600	1.2381	1.7143	2.2972
.700	.9674	1.5279	
.800	.6785	1.2656	
.875		1.0625	
.900	.5454		

LARCVDHTE46 IH17 01 ORBITER WING (QPRW36) (16 SEP 75)

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000 IN.
LREF = 474.8000 IN. YMRP = .0000 IN.
BREF = 936.7000 IN. ZMRP = .0000 IN.
SCALE = .0059

PARAMETRIC DATA

MACH = 8.000 ALPHA = .000
BETA = .000 RN/L = 10.000

RN/L (1) = 10.000 ALPHA (1) = .850 MACH = 8.1059 PO = 2532.5 TO = 1460.6 HO = .14385

SECTION (1)ORBITER WING

DEPENDENT VARIABLE QDOT

2Y/B	.4000	.6000	.8000
X/C			
.175		1.3564	
.200		.8227	
.225	.4493		
.250	.3622		2.2859
.300	3.0283	4.3961	1.4765
.400	3.2273	5.6075	7.2070
.500	3.0788	4.5750	6.3403
.600	2.7565	4.5096	5.7181
.700	2.3836	4.2539	
.800	1.8707	3.7332	
[illegible]5		3.0782	
.900	1.5862		